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# model car *Science*

SEPTEMBER 1964

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Sept model Car Science  
64

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## ENTRY BLANK WITH SIMPLE RULES IN EVERY KIT

### Do This First

Get a Li'l Coffin kit and assemble the model. Fill out the entry blank included in the kit and tell in 25 words or less, what you like best about the model or the kit, and, if for some reason you are unable to enjoy building the Li'l Coffin, ask your hobby dealer to show you the kit and send your entry on a reasonable copy of the entry blank.

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### Entry Blank in Every Kit

Complete details and simple rules are part of the entry blank which is included in every Li'l Coffin kit. Contest is open to all model builders in the two age groups, except Monogram employees and agents and others engaged in the sale of Monogram products and members of

their families. Entries will be judged for originality, sincerity and aptness of thought and decisions of the judges will be final. In the event of tied duplicate prizes will be awarded. This invitation is void in states where such contests are prohibited, taxed or restricted by law.

Entries must be postmarked before midnight August 20, 1964. Winning entrants will be notified by letter about September 1, 1964.

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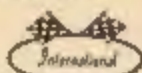


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# model car *Science*

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September 1964

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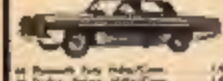
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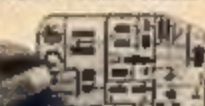
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## NEW CONCEALED AUTO HINGES!

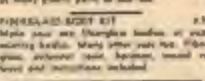
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## AUTO WORLD SPECIALS



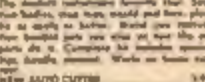
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## BRAND NEW HO!



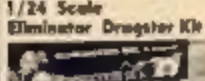
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## NEW MOTORS!



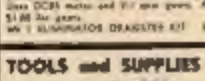
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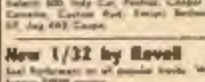
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## MODEL RACERS



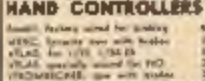
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## New 1/32 by Revell



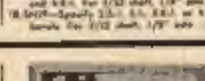
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## 1/25 SCALE REVELL



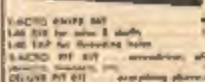
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# MODEL

## BIG CUBES IN A FORD

I would like to know where I can find a Ford "427" engine with a dual four-barrel manifold and a set of "baby moons?"

Mike White  
Aurora, Ill.

You are in luck. Revell has just released a 427 Ford engine kit as part of their Custom Car Parts shop. It contains the dual four barrel manifold as well as one for a 6-71 G.M.C. blower. Aurora has an engine kit with the Tri-power manifold, and 427 engines may be found in some of A.M.T.'s current kits.

No recommendation for moon discs can be made as you do not mention the scale. Stop and think how important this is in answering your mail. A baby moon in 1/25th scale will be larger than the entire wheel and tire if perhaps you are thinking of customizing an Aurora H.O. scale car.

## GOODIES

Where can I obtain a complete list of the Show-N-Go extras, especially the loose goodies such as televisions, record players, Seaba outfits, surf boards, parking meters and so on?

Michael F. Tapy  
Dallas, N.C.

No one has compiled a complete list of all the extras now included in many car kits. I suggest you watch the new item releases that appear in these pages very often. There is a good run down on all the current A.M.T. items in the M.C.S. June '64 issue listing all the custom items.

## TRACK TALK

What kind of wood do you use to make your own track? How do you carve out the slot?

Jerry Enright  
Aurora, Ill.

I plan to enlarge my Strombecker race set by about forty feet. I would like to know which is the best way: to use the Strombecker track or make my own track out of wood? If I attached the home made track to my Strombecker track how would I do this?

Teddy Burton  
St. Lambert, Que., Canada

I want to build a drag strip from scratch. Since plywood is so expensive what could I use for track?

Bill Kasdorf  
Toledo, Ohio

Without writing a full scale article on this subject, may I suggest you refer to the many articles on track construction in our companion magazine, Model Car and Track.

Track surfaces may be of many things including soft pine, plywood, formica.

MODEL CAR SCIENCE

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# MAIL

masonite, chip board as well as particle board. Material costs will vary depending upon the product chosen. A router is mandatory for cutting the slot on turns. Straights may be cut from strips positioned with the proper spacing between lanes and holding groove dimensions. As for costs, don't plan too extensive a layout. Look for ways to use materials that are readily available such as the items in the May issue of MCS on a race course for pennies.

## TREES IN H.O.

I'm in the process of finishing a slot car track in my basement, but have run across one small financial problem. After buying a few trees at 5 for \$1.50, I learned this was going to cost more than I had thought. Is there any company that makes a cheaper tree or is there any way to make trees for a lower price than I have been buying them?

Charles W. Falwell  
Lynchburg, Va.

I must agree with you 30 cents a tree in H.O. scale would soon have the pocket book flatter than a pancake but there is good news for you. A lot of trees, bushes and shrubs may be yours for about the same price you are paying for five of them. Try a box of True Scale Scenic Surroundings, available in the model rail-roading section of your hobby store. These can be used as supplied. Many variations can be constructed using twigs from small bushes as the main trunks and attaching the foliage to them.

## TRACK INFORMATION

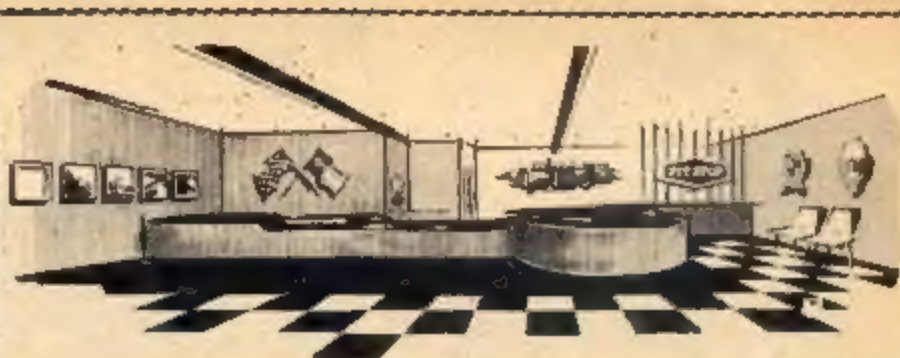
Most of the boys in our neighborhood are model nuts. Gradually we have become very interested in slot racing.

We have been reading your magazine some time now and we noticed the difficulty in classification. Could you give us any ideas in this field? In the May issue of another magazine we saw the new type of track, Flex-a-Raceway, manufactured by Athearn. Could you give us information about this such as cost and performance?

Pat White  
Jackson, Miss.

As a personal opinion - not as they say on TV: "the opinion or views of the sponsor," I do not like it, for the following reasons: The sponge used as a backing does not afford sufficient strength to hold surface even on both sides of the slot resulting in poor wiper contact. There is little side support for pick up guide, just the thin plastic used for top surface. The sponge backing tends to crowd into slot which offers drag on blade of pick up guide. If not used with great care, the thin sponge part under slot will tear destroying alignment. The top surface is not the best for traction.

SEPTEMBER 1964



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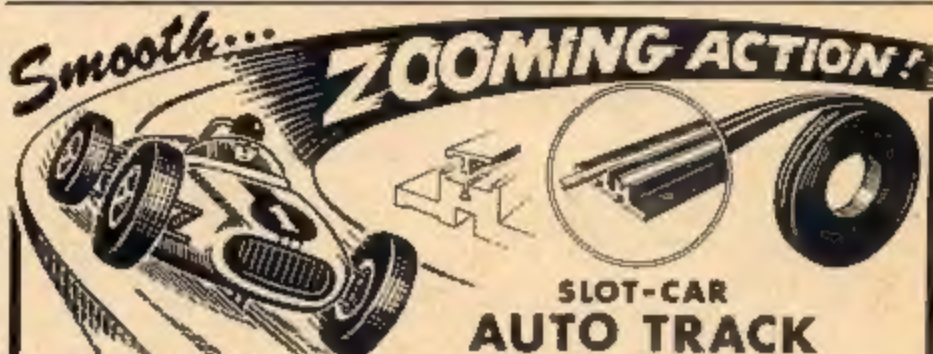
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'64 Ford G.T.

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# NEW TO SCALE

Revell is bubbling over about their new line of Roth "Vista Domes," the soon to be released Road Agent (which will come complete with a mini-sized model of the master himself) and the Orbitron, another way out show car.

For the "slotting set" the two new 1/32 scale bodies mentioned in the May MCS,



Carroll Shelby's Cobra Ford and the Ferrari 250 GTO, should now be ready to roll. These \$1.00 bodies will be sold with metallized wheel inserts, driver, roll bar and racing number.

Complete with surrey top, two fishing rods and holders, cut down door panels, clear windshield and headlights, detailed motor, hinged hood and trunk,



and all the other detailing Pyro is famous for, their new VW Beach Buggy will retail for 98¢.

In the popular 50¢ 1/32 scale Table Top Series, Pyro also has a one-of-a-kind '37 Chev Custom Convertible and one of the real rare all time popular stocks — the '57 Ragtop. Both kits are easy to adapt to 1/32 scale road racing.



Everything works in Renwal's 1/32 scale, \$2.98 Customized Service Truck, ideal trackside accessory for auto racing. Front wheels steer. Hood opens to power plant. Windshield collapses. Crane lifts, extends and rotates. Cab hood comes off. Winch winches. This 10-inch version of a real trackside service truck invites the hobbyist's customizing.

Decals, in great and colorful variety, may be applied as impulse suggests. Gleaming moon discs are another customizing feature. Four "service men" may be assigned to action posts.

The latest craze in custom finishes is Funny Fur, a product of Three Brothers of New Philadelphia, Ohio. Funny Fur comes in handy spray-on vials for easy application and is available in these five horrifying colors: Shocking Pink, Slimy Green, Bloody Red, Jaundice Yellow and Vampire Violet. The car is first



painted with an enamel similar in color to the Funny Fur and the Funny Fur is then applied while the enamel is still wet. It's quick and easy and the result is unique. A colorful package of five vials sells for 98¢ or individual vials at 19¢ each are available.

Monogram Models, has converted nine of its most popular car kits into racing models, seven in 1/24th scale and two in 1/32. There also will be a line of 29 different accessories.

Each of the initial cars will be offered in unassembled kit form. Features sup-





plied in the kits and sold separately in the line of Tiger Racing Accessories include adjustable brass frames; Tiger X-100 motors; precision metal axles; gears; Oilite bearings; "Tiger Traction" racing tires of special-formula rubber; true-turned aluminum wheels; screws and nuts; braided wire; a combination wrench-screwdriver; special racing decals, and molded plastic drivers.



A motorized Drag Deuce with a Fiat body is the first of the new Lindberg "Designer's Scale — 1 inch to 1 foot" kits. This \$6.98 kit features such goodies as a 1960 Chrysler 413 cu. in. engine; Weiland manifold; two Carter four bar-



rel car; Mallory ignition system; Hurst floor shift conversion; Halibrand disc brakes and mag wheels. Included too are safety belts; a fire extinguisher, bucket seats; padded dash board; a Ford transmission with Cragar adapter, and many other "true to scale" extras.

Latest additions to Dynamic Models' growing line of components for the Dyna-Mite line of cast aluminum chassis include:

1. An easily adjustable mount (tongue included) for the powerful Pittman 65 motor. The slotted side on the mount



allows the modeler to obtain an easy fit for any popular gear ratio. The drilled aluminum axle bushing is rigid and insures a positive alignment for the axle. Also the new "notched" tongue allows the modeler to "cut and fit" for any length

*Continued on next page*

# Complete Your Collection Of Model Car Science

## Still a few left

**JUNE, 1963** — the second MCS presents six great fullsize rods and tells how to build the models. There are tips on channeling, metal models and step-by-step instructions for a Fiat-bodied dragster. There is a survey of motors for electric racers and a big report on slot drag racing.

**SEPTEMBER, 1963** — More great cars and custom building tips. Part Two of how to build the MCS X-1 and a big survey of tires and wheels. Full reports on cementing and vacuum forming.

**OCTOBER, 1963** — Information packed pages for every model car and slot racing fan. Pictures galore of championship cars. More valuable tips on independent rear suspension and hinging early Ford doors.

**NOVEMBER, 1963** — Special coverage on the biggest National model contest winners! New techniques for better picture taking. Detailed report on fiberglass bodies and how to power them.

**DECEMBER, 1963** — Buyer's guide to new models and accessories. How to make magnetic doors, drag chutes and short wheelbase roadsters. Differentials for slot racers, driving techniques and power for the '41 Willys.

**JANUARY, 1964** — A big issue packed with easy-to-read reports on customizing models. Exclusive instructions on building the MCS X-15 Dragster. Slot racers are still talking about tips provided to put new zing in Strombecker cars.

**FEBRUARY, 1964** — New ideas on How to Start a Club, Styling, and Painting for Prizes head the list of timeless articles for every model car fan. For the table top buffs, MCS has a detailed report on "O" Gauge.

**MARCH, 1964** — Sensational new ideas on planning a slot track plus a complete report on Revell slot cars, and special features on dream cars highlight this collector's issue.

**APRIL, 1964** — Detailed instructions on building the Cougar II dream car. Complete info on the \$117,000 Fisher Body Contest. Track test on Eldon cars, and a report on how to get more go from your HO.

**MAY, 1964** — Professional advice on designing your car with clay. Exclusive how-to's on building a racecourse for pennies and motorizing Tony Nancy's dragster.

**JUNE, 1964** — Expert advice on how the pros turn a piece of wood into a contest winning car. First reports on the Revell contest. Facts you should know about club & commercial slot tracks. Added bonus: 12 ways to mount motors.

July 1964. How to build the EXOTICA T-BIRD, CADILLAC coupe D'Elegance and WILD TRUCKS. Motorizing the W.C.S. twister. Build your own scale Cobra. How to judge contests. Simplify your RACING schedules.

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## NOTICE

Model Car Science Magazine has been unable to contact the Altair Company of Los Angeles, California, a former advertiser of hand controls.

We suggest, so that our back-issue readers might not be inconvenienced by unfilled orders, that you watch this magazine for any notice of their return to normal business.

(DNC)

New to Scale  
Continued from preceding page

chassis. A choice of 1/8 axle or 1/16" wire axle front end is available to complete the chassis. (Catalog #674, \$1.39 ea.)

2. A drop-flag (or swinging pick-up) that need be only screwed to the standard cast tongue (no soldering) the same as other DynaMile Chassis components. This drop-flag provided for continuous power and prevents deslotting even on road "bumps" or where instant motor acceleration (tongue) might tend to raise the front end of the chassis.

(DNC)

Four world famous cars are now a part of the Eldon line of slot racing cars for 1964. The International quartet includes the Ferrari Testa Rosa, Porsche R.S.K., Lotus 23 and the Corvette Sting Ray. All of the cars feature an adjust-



able Delrin chassis spoked wheels and a two speed rear end.

The magic name in the world of auto racing is Ferrari and one of the most famous names in the Ferrari line is the Testa Rosa. The Eldon Ferrari features all the major details of the real car for realistic racing.

Next up is the formidable Lotus 23. Eldon's version of this car is a sleek low speedster complete with wrap-around windshield and recessed headlights. Cockpit detailing includes the driver and a realistic tonneau cover.



Eldon has duplicated the Corvette Sting Ray in miniature down to the smallest detail. Inside of the car features a full dashboard and a driver. Chrome front and rear bumpers and wire wheels dress up the outside. Headlight covers are in the closed position for better streamlining.

Special features on the Porsche R.S.K. include the racing windshield and detailed cooling and exhaust scoops.



MODEL CAR SCIENCE

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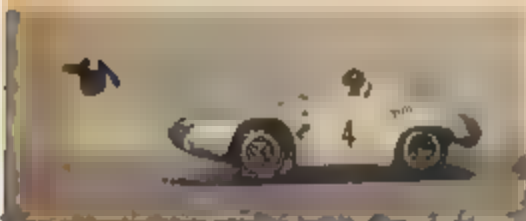
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All of the cars are available with headlights for those day and night races such as Sebring or Le Mans. The motors are 6-volt carbon brush, high RPM units and are very lightweight. The pickup is of standard size and will fit in almost any commercial track.



One special feature that is available in Eldon Road Racing sets is the Diode system for lane control. The Selectronic sets allow you to run both cars on the same lane and still retain individual control. All the cars are available with this system installed or in the standard form.

Eldon also has 8 brand new racing sets starting at around \$10.00. Banked curves, bridge supports, Le Mans starts and escape tracks are just a few of the many features which make for better, faster and more interesting Model Car Racing for 1964.

Veco Products Corporation has entered the slot car racing field with the introduction of a new, all-metal controller.

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Standard color-coded wires and large alligator clips, that will not break from the wire, make for fast, easy attachment. The Veco Model Car Controller is



virtually burn-out proof when operated according to instructions.

The Model 401-6 Model Car Controller for 6-volt motors and the Model 401-12 for 12-volt motors are available at tracks and hobby shops at \$6.95 each. For further information write Veco Products Corporation, P. O. Box 229, Burbank, California.

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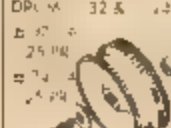
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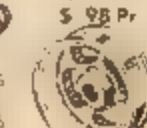
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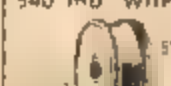
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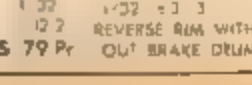


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## Timely Tips From

### CUSTOM REAR WINDOWS

Original shapes on rear windows of early model convertible tops are now becoming more and more popular. A good example of one of these can be seen on page 25 of the January issue of MCS. The steps outlined here for the reproduction of these windows in scale are basic and can be adapted to any model.

First, mark the outline of the stock window on a piece of flat plastic. This can be cut out with a razor saw. It is best to cut this piece a little larger than the outline as it can be filed to shape later.

To divide the stock window into several small windows, the width of the partitions should be determined and marked on the piece of plastic mentioned in the preceding paragraph. Cut these out and file down until their widths match as exactly as possible. Next, divide the stock window into as many parts as desired. Now fit the partitions into the stock opening. Care should be taken in this operation, because the better the fit, the more work will be saved in trying to true them up later. Carefully glue the partitions into their positions in the stock window, and after the glue is dry, putty and sand until cherry.

To make a custom shaped rear window, such as a circular or oblong, cut the piece of plastic mentioned in the second paragraph. File this piece to fit as exactly as possible and glue it into the opening. After the glue has set, fill the seams with putty and sand until smooth. Now drill and cut your own wild shape.

Mark Newell  
Chicago, Ill.

### FASTER CORNERS FOR TRACK SECTIONS

Apply friction tape where car tires hit sharp corners and you will find that the cars will corner much better. Make sure guide shoe is in the slot deep enough or the car will jump the track.

Larry Budd  
379 Sandusky St.  
Ashland, Ohio

### SHOE POLISH TO THE RESCUE

Taking the lead from the full-size racing machines, I use white shoe polish to write numerals and class letters on my model. It is easy to work with and can be wiped off at any time. I also use taffeta material for a simulated Naugahyde tarp over the back seat of a model car.

Greg Stafford  
Ojai, Calif.



# Reader To Reader

## TRAVEL TOOL KIT

An old tackle box makes an excellent traveling kit for spare parts and slot cars. Compartments can be used to hold tools, brushes, wheels, paint and other necessities for the man on the go.

I. D. Buckland  
Wilmington, Del.

## THINNING BODY PUTTY

Try Testors cement for plastic to thin out A.M.T. body putty. This cement acts as a thinning agent and makes the A.M.T. putty easier to handle.

E. R. Clement  
Bridgeport, Conn.

## SOUPING AURORA THUNDERJET CARS

For hotter performance from Aurora H.O. Thunderjet cars, try substituting the armature pinion gear for the drive pinion gear on the cluster gear shaft. The hole in the armature pinion gear is a little too small to fit on the cluster gear shaft, so it will have to be enlarged a little. Also, the bushing on the crown gear will have to be filed down quite a bit to make room for the larger armature pinion gear. This is an easy way to provide a higher gear ratio on these cars.

One other tip for H.O. cars is to use Vaseline instead of oil for your cars. Vaseline is not as likely to get splashed on the armature to cause it to burn out.

Tom Kulik  
Denver, Colo.

## SIMULATED LEATHER INTERIORS

I have found that a flat paint works best when attempting to simulate leather on a model.

Gordon Martin  
Winnipeg, Canada

## TRACK SCENERY

I have added a realistic touch to my model road racing layout by using screening to create "mountains." By stapling one end to the board and folding the rest to the desired contour, you can achieve the terrain characteristics you desire. When you have the screening in place, get some plaster of Paris and cover the screening. After the plaster dries, it can be sprayed or hand painted with shades of green, brown and black, with touches of blue for water.

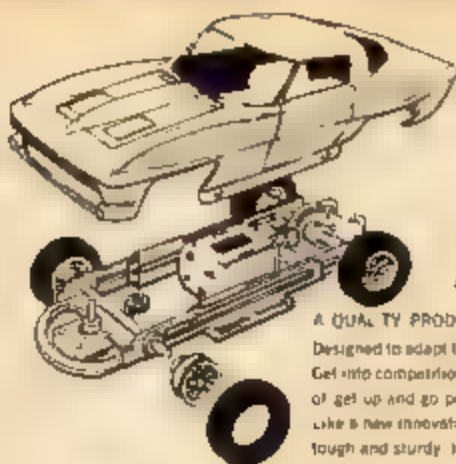
Jack Mitchell  
Pittsburgh, Pa.

## SIMULATING CHROME

The closest thing to real chrome that I have found is Auto World's Rub 'N Buff chrome kit.

Jim Breef  
Perth Amboy, N.J.

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BONDS OFFERS

\$300 YOUR CHOICE OF 1 19c  
\$500 YOUR CHOICE OF 2 19c  
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TIRES  
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**SPECIALS**  
HOMOTORING  
CHANGE & LANE  
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# FIRST REPORTS BIG NEWS in CAR KITS

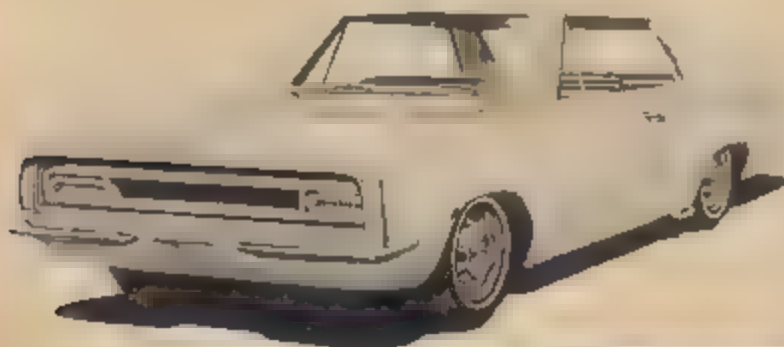
## AMT



'64 Pontiac Bonneville Hardtop (stock version)



Ford powered Cobra (competition version)



'64 Olds F-85 Cutlass Hardtop  
(custom version)

1964 Chevrolet Impala S/S  
Hardtop (stock version)



The AC Cobra heads the list of four exciting new kits now being offered by AMT. This Ford powered machine is the one that has been running wild in Grand Prix competition.

For racing, this \$1.50 Cobra kit has a Weber carb, Roto-Rac ignition, Halibrand knockoff mags, competition exhaust, shoulder harness, roll bar, hood scoop and windscreen. Custom fans will love its fastback top, front and rear bumperettes, specially designed taillights and wire wheels.

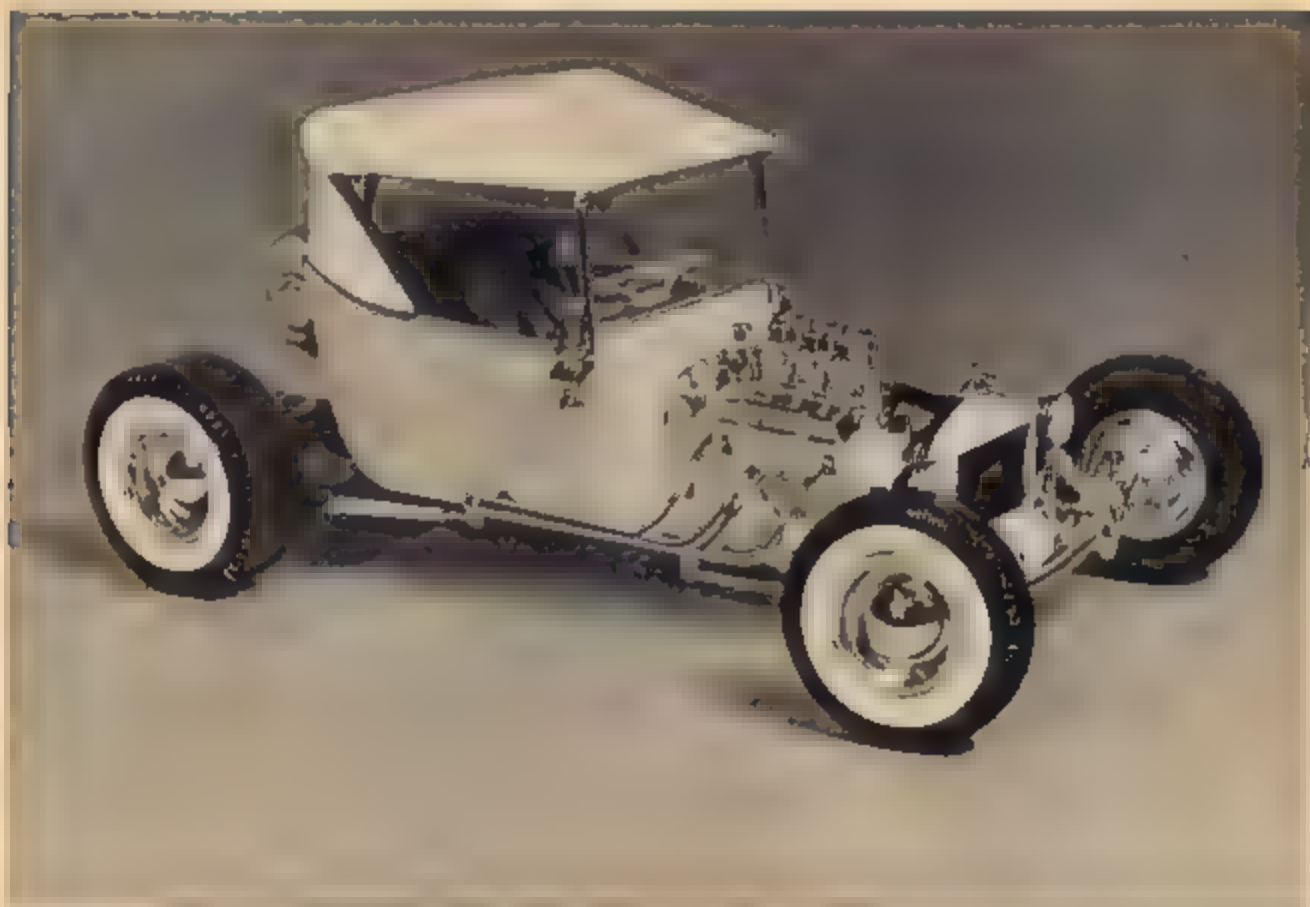
For custom or racing bugs, the Cobra has an exceptionally detailed chassis, a trunk lid that opens and closes, tonneau cover, roll bar and wind wings.

Second in this new 3-In-1 series is the \$2.00 '64 Chevrolet Impala S/S Hardtop that features headlights and taillights that operate. The customized version, designed by George Barris of Hollywood, Calif., has mag wheels, custom exhausts and housings, roll pan and grille. For the racing boys - there's scoops, blowers and dump tubes. The stock builder can build a model just like the one in the show room.

The 1964 Olds F-85 Cutlass Hardtop, customized by Dean Jeffries of Hollywood, has side pipes, bucket seats, a scooped hood, and Eeico floor sh fit a Janson steering wheel and a customized air cleaner. Racing version's goodies include Judson superchargers, Hedman Hedders, dual throat Weber carbs, racing pipes, roll bar, and a set of four bladed knock-off wheels. The stocker in this \$1.50 kit has T-line rectangular headlights and back-up lights.

AMT's 1964 Pontiac Bonneville Hardtop sports a 'Big-Boomer' 421 cu. in. engine with 17 parts that are scaled to 1/25 authenticity. The interior of this \$1.50 mover offers detailed realism with specially designed bucket seats, gear-shift, tachometer and console.





# "LITTLE GREEN GIANT"

by Bob Paeth



Model builders don't often have a choice of scales for the same model. The choice here is a Ford "T" in either 1/8 scale or 1/24 scale. Since the 1/24 scale is the newest, let's try it this time.

Many people believe that the basic lines of "Henry's "T" cannot be improved upon. That's why the only changes made here are either mechanical or with component parts. This "Little T" can be put together with very little trouble because of the absence of major body work. The front wheels, tires, headers and the Chevy engine are all from Revell while the rest of the parts are stock Monogram.

The gasoline tank vent pipe is just single strand electrical wire with the insulation removed. The insulation is then used for the radiator hoses. The pearl white top and interior nicely compliment the candy green paint job.

Monogram is to be complimented on this kit. It certainly meets their high standards for workmanship and beauty.

*A real haulin' street rod! The frame is candy green with a gold underbase to make it a slightly different color from the body.*

MODEL CAR SCIENCE





The suicide front end axle perch is cut off the grille shell. Take care not to ruin the shell as this will be used later. The cut should be made just above the horizontal part.



The perch is changed in order to lower the front end. Scrap plastic, melted by a road burning tool, is used to build the perch higher. Then cement perch to the frame.



After assembling the gas tank, set it on end. An exhaust header makes the perfect filler pipe. This header is from the Tomy Ico "Showboat" but most headers will work.



Here is the completed chassis with the engine in place. The engine is Recell's Chevy with the front mounted blower. The front axle wheels and tires are from Recell also.



Because of the added length of the new engine, the body is further back on the chassis. The two cutouts normally used for the frame make good taillights with red plastic behind them.



For a "woy-out" over flow or vent pipe, wind a piece of copper wire around a nail. Then remove the nail and you have a coil. Be sure wraps are even for a good job.

Cement the tank in place as shown below and cement a knock off hub on the filler neck for a gas cap. Put a small hole in top of the tank and install the coiled wire

The radiator must be notched so it will fit over the spring perch. The size of the notch will depend on how low you want the radiator. A 1/4 inch cut should be enough.





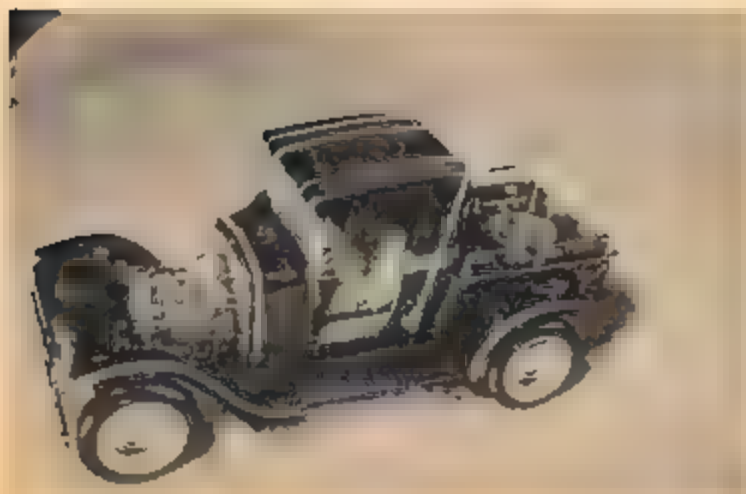
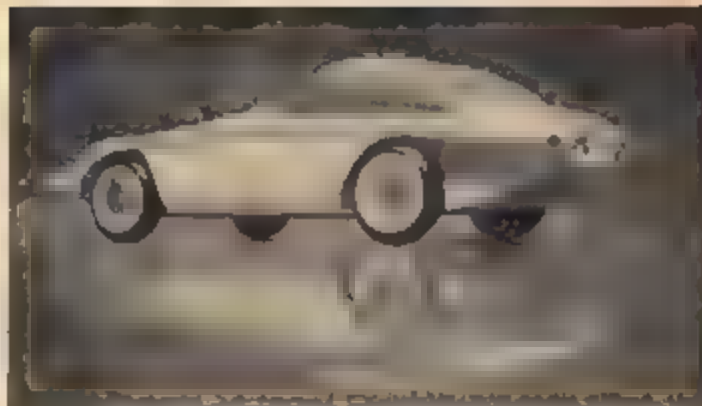


# MCS CONTEST WINNERS



*A beautifully customized AMT '49 Mercury wins this month's \$25 Savings Bond for Lawrence N. Rosenblatt, 7125a Tulane Ave, University City, Mo. The engine is a Cadillac with a Dodge alternator, Chevy distributor, and 8 single throat Strombocker carbs. Body was chopped 5 1/2 scale inches. Larry is 29, married and in the insurance business.*

*After making over 100 design drawings, Warren Muehlem, Jr., of Tacoma, Wash., traced the best design on a block of balsa and started carving. When he was satisfied with the shape, he covered it with 15 coats of white lacquer.*

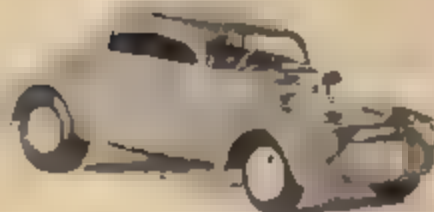


*From McKeesport, Penna., David Kancel submits the "Chianti Kart". Basic kit was the Ala Kart. Grilleshell is unchanged but grille was replaced by a gold waffled foil to simulate the pressed grilles of today. Hood was left off to show a completely wired Dodge injected engine.*

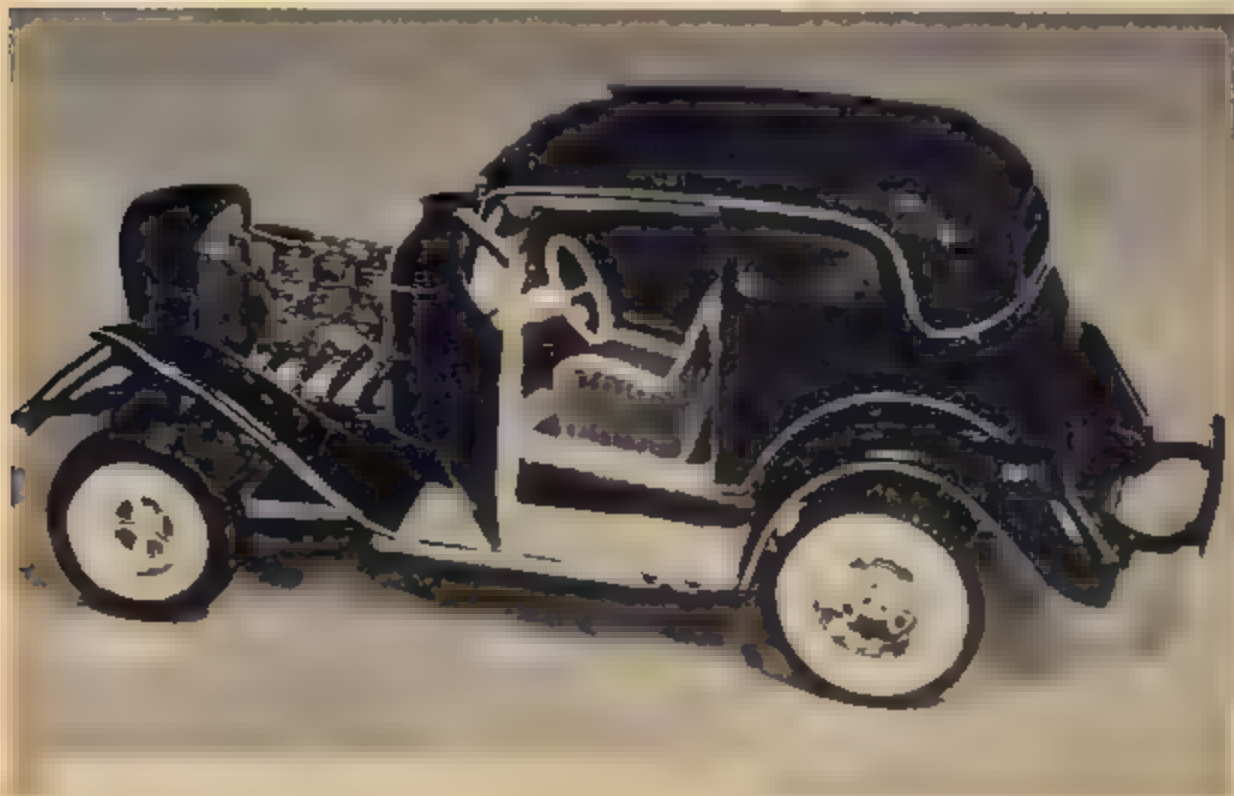




*John E. Williams, 22 year old modeler from Baltimore, Md., molded both front and rear on this sectioned '49 Ford coupe. Doors open to show a completely customized interior.*



*Chicago, Ill., modeler Micha Burman chopped and channeled this '40 Ford coupe, added a super-charged Buick engine and a dual exhaust system then topped it off with a custom interior and a red paint job.*



*A '32 Ford Victoria with chopped top, working doors, 427 cubic inch mill and scoops on the roof, is the pride of Bill Orban of Kankakee, Ill. Model is finished with Candy Purple, waxed and trimmed with white tape.*



*Originally a '32 Ford sedan, the "Hustlin' Heave" has been chopped, channeled and sectioned by Madison, New Jersey modeler John Benman. Cantilevered roof was made by removing the pillars and window frames and chopping the rear wall. Sun roof was sculptured with a modelers' jig saw.*





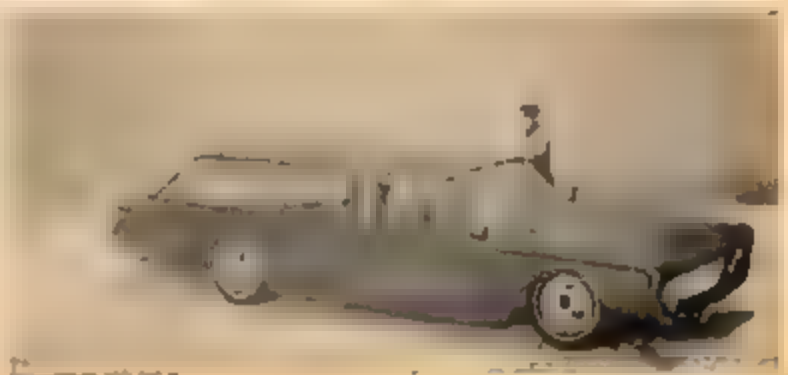
Larry Gabur of Lexington, Ohio, submitted this '64 Sting Ray with a chromed and wired Velle engine sporting two Fs. Firewall and rocker panels are chromed and seats are leather covered. Larry went all out on the detailing on the frame.

Best car of the Show in Longmont, Colorado, this '40 Ford has been chopped and channeled  $\frac{1}{4}$  inch. Fenders have been completely reworked and molded to the body. Engine is the 392 cu. in. Chrysler by AMT, tapped off with a set of eight two-barrel carbs. Each one has its own fuel line. Builder M. Ford topped the whole job off with fourteen coats of Lime Gold metalflake.

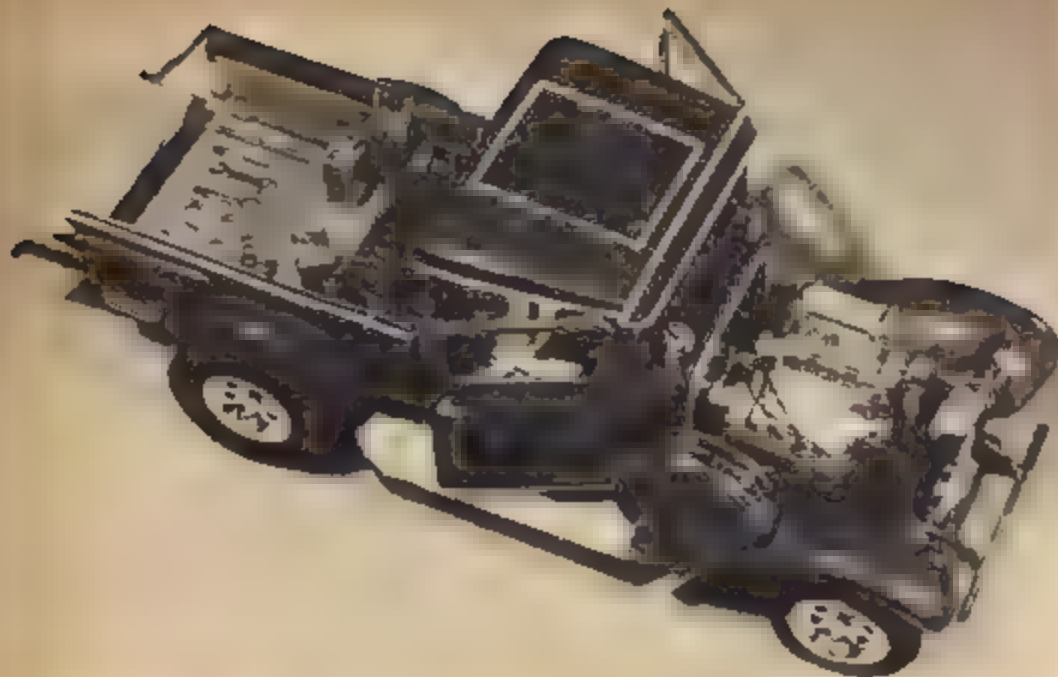


This AMT '40 Willys Class A/C dragster with a Cadillac engine and six carbs from Revell's Custom Car Parts Shop was built by Jim Haines from Omaha, Nebraska. Side pipes are from AMT's '53 Ford pickup kit. Exterior is purple with white numbers and class identification markings (on the trunk lid).

Ed Raum, twenty-five year old craftsman with a flair for fine detailing, created this sporty wagon for the "drag" den mother. Basic lines were unchanged but most effort went into a detailed interior and a gleaming exterior finish.







One of the nicest pickups we've seen in many a moon, this '34 Ford by John Brandimonte, from Pittsburgh, Pa., features a chrome, blown Chrysler mill that is fully wired. Doors and tailgate operate and the top is chopped 1 1/2 inch with a tinted sun roof. Front tubular bumper is a scavenger pipe from the Jo-Han '62 Plymouth.



"High and Mighty" is the name of Steve Atwell's '60 T Bird with a completely wired 393 blown Chrysler engine. Other features include pipes from the Beatnik Bandit and a ruined front end.



Made from spare parts from a Double Dragster kit by Don Synocky from Cleveland, Ohio, this Fiat Competition coupe could become a sleek rival for any trophy.

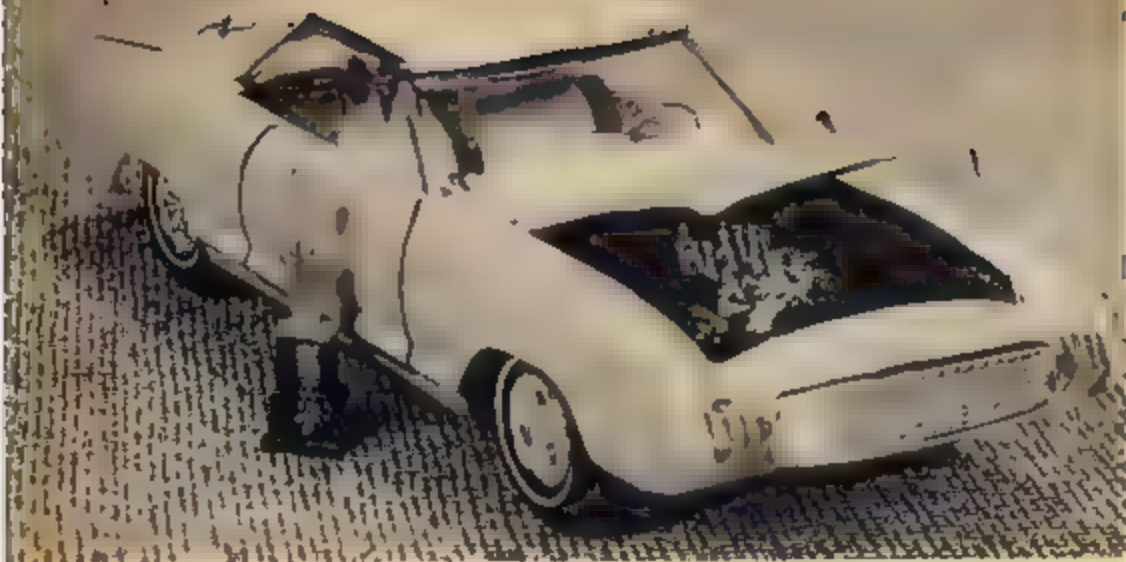


From Sherbrooke, Que., Canada, the '40 Ford sedan shown above has been restyled extensively. Revell's Chrysler engine sits on a super-detailed frame with Ala-Kart rear end. All wires and lines have been installed by builder, Ron Knapp.



Winner of the Special Editor's Award for Outstanding Craftsmanship in the June MCS, Polish modeler Henry Psautchowski shows us a sample of one of his latest efforts: a '59 Olds ragtop.





Starting with an AMT '64 Buick Riviera, 22 year old modeler, Don Culp from Blytheville, Arkansas, has created his version of the Mustang III. The car has a removable top that is covered in white pearl vinyl and a black velour headliner. Headlight quads and grille are from the AMT grill pak. Pointed front fenders are formed from balsa wood and putty. Buick mill under the hood is chrome and completely wired.

Ready to race, this '32 Ford Victoria built by Jeff Jennings has a fuel injected Pontiac "421" V-8 chrome engine that is fully wired. Car is fully upholstered on the inside and rides on AMT tires & wheels (mags in back with M&H slicks, spokes with Firestone tires up front).



Vallejo, California customizer Ed Raum submitted photos of two more outstanding models. The Ranchero is beautifully chopped and sectioned and finished with a superior metalflake paint job. The "fogging" on the boat at right shows another sample of Ed's ability with paint.

Chopped, sectioned and channelled, this '40 Ford sedan also featured rolled fenders, operating doors and trunk and modified grille. Power is supplied by a fully wired blower Chrysler. Balsa wood was used for the running boards and aluminum tubing for the exhaust pipes. Builder is Dennis DeNiro from Munroe Falls, Ohio.





# Styling Tips

By Bob Wagner



An aerial sunken into the fender of a pickup. Chrome ornament from '57 Chevy hood scoop is molded into fender then aerial is added.



Here aerials are tunneled into door. The small ridge that separates them could be built from putty.



Twin aerials are set into fender thru a small mesh grille, surrounded by a ridge which can be built out of putty.

## SUNKEN AERIALS

Here are two easy ways you can make sunken aerals for your model. The first method makes use of the chrome hood scoop inserts from a '57 Chevy. Chrome insert is placed on side of fender where a sunken aerial is desired and area is marked with a grease pencil. Cut out area inside marks with a jeweler's saw or razor saw. Area could also be drilled out roughly. Use file to finish opening, checking with chrome piece every so often so as to achieve a snug fit in fender. After opening is finished and scoop fits snugly, remove scoop from fender and drill hole in bottom for aerial to fit into. Second method is to drill a hole the size of the chrome sunken aerals contained in many of the kits. Glue aerial in place in fender.

Some custom cars put the aerals side by side in fender others have them protruding horizontally from the roof, some are hidden away in scoops on the body.

The pictures here give an idea of the variations possible. Popular Customs Magazine is a good reference for the positioning of sunken aerals.



Aerals are sunk into holes drilled in the fender.

## CHROME WHEELS FOR THICK SLICKS

It is hard to get chrome wheels to fit Revell's or AMT's wide slicks. Here is a simple and easy way to do it: Using the chrome wheels from Revell's '56 Pickup, glue front and rear half of wheel together in slick. After two halves have dried take another back wheel half and glue to front of chrome wheel. Presto you have a set of deep dished chrome wheels!

BACK HALF OF REVELL  
'56 PICKUP CHROME WHEEL



REVELL OR AMT WIDE SLICK

FRONT HALF OF REVELL  
'56 PICKUP CHROME WHEEL



CUSTOM  
KNOCKOFF

ANOTHER REAR HALF REVELL  
'56 PICKUP CHROME WHEEL

# GREAT CUSTOMS ...and how to



## SUMMERS BROTHERS STREAMLINER

ONE OF THE MOST outstanding performance cars at Bonneville the past few years has been the Summers Brothers class "C" Streamliner. It is also outstanding in its unusual but well thought out design concept which shows an abundance of original thinking and attention to detail in every phase of its unorthodox configuration.

The three wheel plan form lends itself to a much cleaner and more compact aerodynamic shape than the conventional four wheel set up, which requires an excessive amount of overhang to ap-

proach the same clean aerodynamic shape.

Three wheel cars however do not conform to F.I.A. standards, which require four wheels on the ground, two steering and two powered. In this respect the Summers Brothers' car meets all requirements, if they choose to run for international records at some future time. They have combined the dual requirements of power and steering to the two front wheels and placed the two rear wheels in tandem to obtain the desired three wheel configuration.

The overall efficiency and soundness of their design is shown by the cars performance, something any Bonneville participant will envy, well over 300 MPH consistently with a one way run of 323.79 MPH in the '62 meet. With a relatively small, 302 cubic inch Chrysler engine, this is quite an achievement when you think back to the record cars of Sir Malcom Campbell. His record holding cars were in the same speed range as the Summers Brothers' car is now producing, but Campbell's cars required huge aero engines of from four to five times the displacement to achieve the same performance.

The very smooth plane lines of this car body makes it an ideal subject for the scratch builder as the contours are very soft and with only minor projections. There are no sharp hard lines that would require a great deal of effort to reproduce. To many of you model builders who have not had the courage to start a complete scratch built model, this is an ideal one to start with as you would have to look a long time to find a simpler body to reproduce.

With no basic body shield or frame to start with, a few sketches to scale will be required to establish basic size and shape. The most popular scale 1/25th, will allow the use of many components from other kits or accessory items in construction. To aid in establishing the general layout we have converted the known dimensions and made an educated guess at the others to establish a working set of figures with which to make layouts.





# AND HOT RODS build the models

ACTUAL	MODEL
Tread 59"	1.56"
Wheel base 150"	
(Note)	6.00"
Overall length Approx.	
235"	9.40"
Width O.A.	
Approx. 55"	2.20"
Height O.A.	
Approx. 36"	1.44"
Front wheels 16 x 5 1/2	.640 x .220
Front Tires 6.75 x 16	.270 x .640
Rear Wheels 15 x 4 3/4	.660 x .190
Rear Tires 5.50 x 15	.220 x .600
O.P. Rear Tires 21"	B40

**NOTE** With rear wheels in tandem, in a sense you have two wheel bases. This dimension is to the trunion bolt on which rear wheel cradle pivots. So tire contact areas fall at approx 132" and 163" aft of front wheels.

Something to watch for in your layout is that the center line of the stub axles driving the wheels is ahead of the axle center line of the quick change unit by the amount of distance between centers of the overdrive gears on each side of the differential case.

Currently available parts that can be used or converted will include the basic Chrysler engine, Revell kit C-1102. The front mounted blower and injector from the Revell Chevrolet engine kit C-1101. Quick change center section, side plates and exhaust pipes from the Revell Dragster speed equipment kit C-1124. The fly-wheel housing from the Tony Nancy dragster. The in and out transmission box from the Revell Cad engine kit C-1105. Overdrive units, Willys outer hub units, drag chute housing and cockpit enclosure as well as a good supply of round stock for the frame and steering components are available in the Mickey Thompson Challenger kit.

No appropriate tires of the correct size are available. A section can be removed from those included in the Challenger and then cemented to the wheel rims for the best effect or sand the entire tread off of any regular tire to the low profile shape used on record attempt tires.

The easiest approach to the body would be to make it of two blocks of Balsa wood joined together during exterior shaping and then pulled apart to carve out the interior. Use the panel joining line that is approximately the horizontal center line as a dividing point.

Bonneville cars in model form are somewhat rare. The Summers Brothers car, being one of the best performing and most unusual cars to appear at the Salt Flats, is an ideal subject for reproduction in a model.



**GREAT CUSTOMS and HOT RODS**  
... and how to build the models  
continued



## KNOT FARRINGTON'S T-BIRD ROADSTER

**E**XTENSIVE MODIFICATION over a period of time has all but eliminated any resemblance to this car's origin. Yes, believe it or not, this was once the ever popular '55 - '57 two place Thunderbird. The slight body crease along the top of the side panels is the only indication of its parentage.

This process of evolution has developed over a period of years in the quest of higher top speeds at the Bonneville speed week events. Originally powered by a hot Ford, later modifications included a blown Chrysler and progressively a more streamlined shape until little but the area around the cockpit retains the original

lines. A complete revision of the front end and rear section sheet metal has effectively improved the aerodynamic shape of the car.

The A.M.T. Thunderbird kit will form the basis of this model, establishing the basic tread and wheel base dimensions.

Revisions to chassis and body should be worked up simultaneously to assure proper fit of all components when assembled. Starting with the chassis, remove front crossmember and "A" arms leaving just the frame rails. Fabricate a new crossmember that will locate an early Ford cross spring, tubular axle set up from the Revell Roadster, or Dragster speed equipment kit C-1124. Be sure

to position axle properly to maintain original wheel base. Cut out center floor pan and any cross members along edge of frame rails to in back of the cockpit. New crossmember must be made that will stiffen frame as well as locate the big blown Chrysler engine, for this use the Revell Chrysler engine kit C-1102. It is positioned in the frame with the back edge of the blower belt even with the back edge of the hood and the top edge of the Hilborn four port injector just flush with the cowl.

The engine's location will eliminate all of the original firewall and dash board and fill most of the cockpit. A very narrow area for the driver extends along





side the left side of the engine. The narrow seat back is even with the back edge of the door and the streamlined head rest incorporates a tubular roll bar. A 3/4 steering wheel locates with minimum clearance to door panel. The steering shaft contains a "U" joint forward of the firewall angling to the gear box mounted on left frame rail just behind tie rod.

The firewall should be made of card stock or thin sheet plastic. It starts in its original position on the left side coming in to the side of the engine then turns 90 degrees and goes back beside the engine to about the front edge of the door. It then turns inboard to a gentle radius around the back of the engine and then the curve reverses to match the leading edge of the right hand door.

The battery and Moon fuel tank are located just behind the right front fender well. The radiator is canted forward at the top and is positioned forward of the front spring cross member and used copper lines of about 5/8 inch diameter to carry water to the forward face of each side of the block and from the front of each head to the top tank.

The chassis modifications should be done first with engine properly positioned, as this will determine the amount that the body may be channeled over the frame, remember the cowl lines up with the top of the injector unit. The body has a slight rake forward. When its location is established, the entire front end should be cut off at the wheel center line, and a new nose section built up. This may be of soft wood hollowed out or of scrap plastic and putty.

Following the pictures you will see that the fender peaks have been removed and that the hard sharp lines have disappeared into a gentle rounded curve with just a suggestion of a crown slightly above the wheel center line. The nose section wraps under to a full belly pan that runs the entire length of the car and

has a small blister at the middle to clear the engine pan and fly wheel housing.

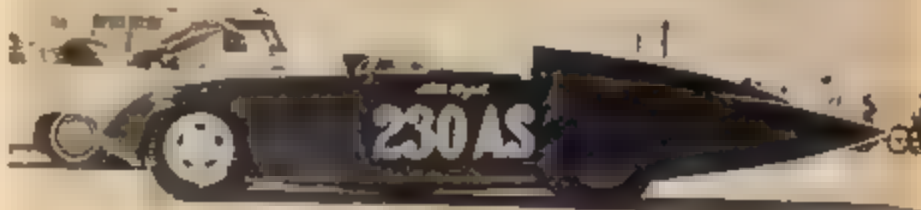
The rear section of the body will be much easier to make than the front. Start by opening up the rear wheel wells and adding a flange over the top half. This is required to clear the wide base wheels used. Cut off the entire rear section just behind the wheel openings, as in the front, use care to make your cut straight and file smooth. This section may be made of sheet stock, either balsa or plastic, and is no more than a flat wedge radiused at the corners at front and ending in a hard sharp horizontal line at the extreme rear. The head rest fairing

should be made of balsa gently tapering until it disappears about 2/3rds of the distance down the tail.

The formed windshield may be made from some model airplane enclosure such as the P-51 or Thunderbolt to obtain the correct shape.

Wheels are Halibrand all the way around, try Revell's latest wheel kit for these. The tires are Firestone sports car type used in many of the current AMT kits.

All this work will result in an original model you can be proud of when completed and will help round out your collection.



# MODELING MOTORCADE

Continuing its sweep through the country,  
seeking the best in modeling craftsmanship,  
MCS again offers a roundup of original designs.



*Always popular, this '40 Ford is the handiwork of Bob Loomis, Painesville, Ohio, who sectioned the coupe.*





*Beginning life as a Pontiac, this way-out rod has become a Buick-powered, streamlined dragster with bubble canopy. Sling shot streamliners are becoming popular at road drags.*

*From Cleveland, Ohio, comes a '39 Ford which has been wedded to a Chevy El Camino. Engine is a Pontiac; interior is carefully flocked.*





Well-known modeler Bob Paeth, formerly of San Pablo, Cal., has done it again! This '40 Ford coupe has been chopped, cut into a semi-hardtop and fitted with Edsel grille.



Contest judges look beneath the shell when the competition gets rough, careful detailing here means prizes.



For something different in dragging, try this on for size. Pat Purcell really scored when he built this twin Allison powered go-machine.



The '36 Ford roadster is a long-standing favorite of car fans, exemplified here by this neat maroon job with Chevy engine.



Drag racers are always trying to think of new ways to put weight on rear wheels. Why not add an extra engine?

Super detailing is the word of the day here. Driver with stream, opened drag chute, and engine wiring are just a few of the many fine points.





*Joel Peters of Euclid, Ohio, turned his '32 Ford into a charging competition coupe, here in display garb. Engine is a huge Chrysler V8 with over-frame headers.*



*This extremely low Beatnik Bandit has had its whole appearance changed by using a custom windshield. Clever headrests were scratch built.*



*Conservative customizers take note. This Ford "ragtop" proves that it is not necessary to go wild to create a swinging custom.*



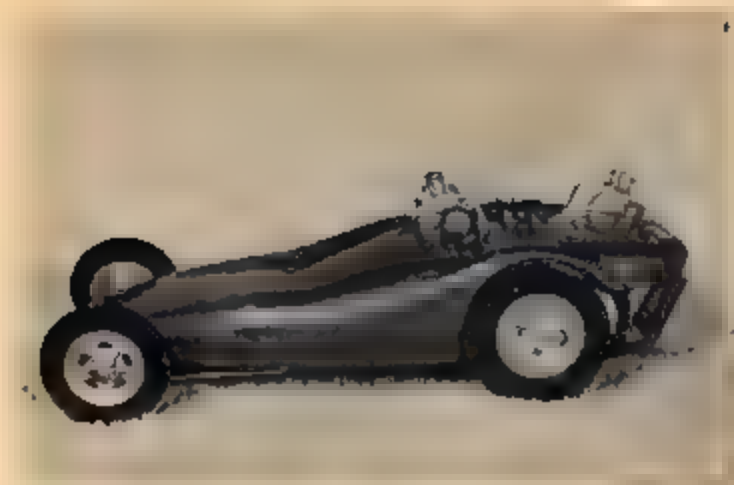
*We can't seem to escape the '36 Ford this month. Here is a fine example by Fred Lagodon who calls Taylorstown, Penna., home. Note half folding top.*



*This Chevy II wagon features a unique sliding roof that not only adds style, but is sensible as well.*



*A second '36 Ford this month is a coupe by Tony Finazzo of San Jose, Calif. Doors, deck, hood all open.*



*Power plus — that's what you'll have with 2 V-8's mounted as sidewinders. Metalflake paint and streamlined body are finishing touches on this model.*



*For those who are power hungry — this twin Allison drag star should make a hit. The frame is scratch built from plastic runner stock.*



*A frantic bubble top and highly sculptured rear fenders make this real tough competition on the show circuit.*



*It's all '40 Ford from the windshield back, but frontal appearance comes straight from modeler's imagination.*



*Not even the Volkswagen can escape the customizer's knife. Quad lights stare ahead from altered fenders; top has been severely chipped, body seams mulded.*



*Half dragster, half modified roadster, this fast one comes from many kits. The Tony Nancy and Scuderia Scale dragsters are two of them.*





*How far can you go with the '61 Corvette? Darrell Hunger from Oakland, Calif., has apparently gone just as far as he could.*



*John Shobe comes up with a winner with this 'flaked' '32 Ford. How about those crazy taillights for a styling trick?*



*Don't forget the chassis in fine detailing. This beauty not only features lots of chrome but a full belly pan as well for that completed look.*



*Space age styling is represented here on this sleek two seater sports car. Do you suppose that this started out as a T-Bird?*



*Again the '36 Ford — this time a radically altered coupe built by Gary Jackell of Lyndhurst, Ohio. Body is sectioned, fenders raised.*



*Oakland, Calif., is home to Jim Davis whose wild '32 roadster now sports a '40 Ford grille, Lincoln engine, quad headlights from a '60 Chevy, and full rollbar.*

# DREAM CARS

## M.C.S. Peeks at Things to Come From Designer's Drawing Boards

**A**FTER OBSERVING the most current trends from the better model cus-

tomizers across the nation, MCS toured the Detroit styling inner sanctums to see what the major auto manufacturers are thinking about for their cars of the future.

Many of the auto experts we spoke to predicted that we will see a trend toward rear-engine cars in the next few years, with body shapes tending toward the teardrop — with the passengers seated farther forward than now. One of their arguments is that engines will become so

small and light that we can put them about anywhere that it's convenient — even under the seats if necessary!

There is little doubt about this. Certainly engines will become smaller and lighter in relation to their horsepower, but we don't know that it will go this far in the next 10 years. Also, we can't push the passengers much farther forward without having the front wheel wells intrude into the foot compartment. (Look at VW.) The true teardrop body doesn't



*Ford's Seattleite XVI is a six-wheeler with tandem-mounted front-drive wheels. The X-2000 at right features an elliptical grille.*



*Allegro (above left) is now on display at the New York World's Fair. The "999" at right, sports a lowered hood and aerodynamic front.*

FORD'S DE PAOLO TRANSMITS THE FEELING OF MOTION CONVEYED BY THE WHEELS





# FROM DETROIT

look too practical from here. Another thing: A slight nose-heavy weight balance is an important advantage in a smooth, pitch-free ride and stable handling at speed in a crosswind. Overall result, We feel the current general layout — engine in front, passengers cradled between the wheels, luggage space at rear — will be with us for a while.

However we do look for wider use of rear "transaxles," where the transmission and final drive are combined at the rear,

mounted on the frame and driving to the wheels through jointed shafts. Also, you will see a lot of attention given to front-wheel drive.

On body styling, we can safely speculate on the size of cars to come. The big cars are going to get smaller in time — and it's entirely possible that today's compacts will grow slightly. Tomorrow's family cars will trend toward a size not far from today's intermediate compacts. Other styling features to look for in years

to come: More efficient aerodynamic design (as highway speeds will undoubtedly be much higher), smaller, more compact grilles feeding air to a ducted cooling system that can get along with a minimum of air passage area and radiator core area; more rounded, torpedo-shaped lines in car bodies; much more glass (or plastic) area; steeper slanting of windshields and rear windows, gradual trimming of bumpers until there's hardly anything left; full, round wheel cutouts.



*Upper left: GM's Firebird IV for high speeds.  
Upper right: The GM-X fastback sports car.  
Above left: Three-wheeled GM "Runabout."  
Right: The "Bison" is a turbine-powered hauler.*

fewer blunt ends on fronts and backs of cars.

Tomorrow's sleek sports car will bear strong resemblance to the GM-X, according to some Detroit predictors. It has an aircraft-inspired fastback shape and even has brake flaps on the rear

quarter panels.

Exotic shapes for powerful new trucks haven't been forgotten by the designers. The GM Bison would pull containerized cargos over the highways, powered by twin turbine engines carried in the pod above the wheels.

To further dramatize new styling concepts, U.S. Steel recently built scale models of truck cabs, a giant off-highway dump truck, a sleek futuristic town car, and a highly versatile family camper vehicle capable of doubling as a field office or side loading delivery van.

## DREAM CARS FROM DETROIT



FUTURISTIC TOWN CAR DESIGN WAS DEVELOPED BY U.S. STEEL TO ILLUSTRATE ADAPTABILITY OF STEEL



THE TWO TRUCKS SHOWN ABOVE DRAMATIZE THE U.S. STEEL CONCEPT OF INTERCHANGEABILITY

A SUGGESTED DESIGN FOR A CAMPER, FIELD OFFICE OR LIGHT DELIVERY VAN





# TABLE TOP RACING SECTION



## PHOTO CONTEST

*Each month Model Car Science will award valuable prizes to the readers who submit the best photos of slot racers in action. Send your photos to: Table Top Photo Contest Model Car Science, 171 Barrington Pl., Los Angeles 49, Calif.*

**THIS MONTH'S  
PHOTO CONTEST  
WINNER IS**

**PAUL A. SCOTT  
CUPERTINO, CALIF.**

# MCS **Spotlights:**

## LE MAN'S HOBBIES,



*Steve Gaylor puts the slots thru rigid testing for scale specifications at LeMans in North Hollywood, California.*



*Judging racecourse turns out to be a real problem as the scrutinizing hands mass over #20, a white Lola, for the trophy prize.*

*Announcing the start of the three hour endurance for the North Hollywood enthusiasts is the grand marshal... They're off and racing!*



Le Mans Hobbies, located in North Hollywood, Calif., has two complete road racing tracks called Road America and Road Le Mans. The Road America Track is a 1/32 scale track and consists of eighty-five feet of four lane track. This layout has ten turns, of which three are eses and one is an Indianapolis type of banked turn. This track also has two overpasses (bridges), three chicanes and a twelve foot straightaway. This is quite a bit of action to pack into eighty-five feet of track and makes it a very challenging driver's course. The reason they call it Road America is because of its Indianapolis type of banked turn.

The Road Le Mans Track is a big 1/24, 1/25 scale track and it consists of 189 feet of four lane racing track. This layout has a forty-five foot straight which takes you into a 180 degree turn banked at 45 degrees. From here it's downhill through four sets of eses into a chicaned hairpin, a straight and another chicaned hairpin. This brings you to the tricky six inch high hump-backed bridge which is tricky because it has one es at the top. Next come the two off-camber turns, one left and one right. From the Driver's stand, which is four feet high, these turns look like they're flat, and it takes skill to get through these fast, without losing it. Finally, you go through another 90 degree turn and up a switchback hill, which has every turn chicaned. After you clear these four turns, it's a short straight into a sharp 90 degree right and down the straight again, to complete the circuit.

Both tracks are very well lighted by overhead fluorescents, making all turns visible to the driver. In addition, all lanes of both tracks have provision for brakes. This is accomplished by an internal switching relay which, when the brake switch is applied, cuts off the power and puts a load on the motor of the car by short circuiting it through the track. This makes racing a slot car even more like the real thing, since it lets you go further into a turn before slowing down, slowing much quicker with "brakes." Almost all of the drivers who race on our track use the brakes.

Road Le Mans has a large, wall-mounted automatic lap counter, visible to all drivers.



# TRACK of the MONTH

NORTH HOLLYWOOD, CALIFORNIA



*Lexus, Lotus, Ferrari, Cobras, Corvettes and many others amass for the LeMan's Three Hour Enduro. An unidentified slot enthusiast (above) worries over the problems of the upcoming race. A recently formed club, the LeMan's Road America has dedicated itself to 1/32 scale cars built to exacting scale specifications. The four lane, 71 foot track (shown below) is a tough test for any driver.*





*Judging Concourse turns out to be a real task for these critics of the "Pygmy Racers." There is little luck involved in winning this event; the competition is keen and the judges are serious experts. It is strictly the best of the best!*

*Before the Enduro there was a trophy parade for model car builders and this was the Grand Prize winner. LeMans features trophy prizes each Friday of the month plus racing competition that's nearly unbeatable.*



*The final touch before the starting gun in the LeMans enduro is fresh tape applied to the track to color code each lane for faster identification.*

MODEL CAR SCIENCE





STORMER LOTUS POPS THE GROOVE TO OVERCOME # WHO GAVE HIM TROUBLE IN THE TURNS

LEMANS TEST TRACK (BELOW) CAN BE USED TO TEST VOLTAGES OR BREAK IN A NEW CAR





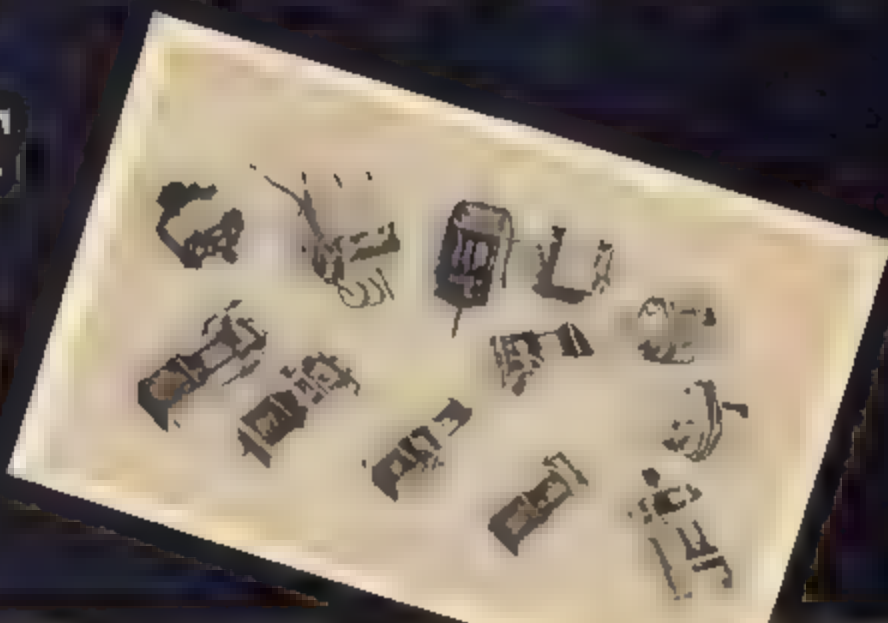
A VIEW FROM THE BRIDGE SHOWS A SLIZZLER NEARING A NARROW PART OF THE TRACK  
AFTER COMING OUT OF THE TURN TOO FAST #1 LOSES TO A MORE CAREFUL BUTTON PUSHER





# SLOT MOTORS

## THE FASTEST and the STRONGEST



By Raymond E. Hoy

PERHAPS THE ONLY GOOD THING to come out of the famed "Pittman shortage" is the fact that it forced slot-racing enthusiasts to look some of the other motors over before going ahead and automatically buying a Pittman. The Pittman motor deserves every bit of fame it possesses, but there are many other motors available in the United States and from across the pond, that deserve more than just a passing glance. Let's look some of them over and try to draw some conclusions before we rush out and pick something to power our little sizzlers with.

The ideal motor of course, is a fully dependable, lightweight, power-house that goes like crazy and never wears out. Some of the motors available, believe it or not, come pretty close to filling the bill in all respects. Many, however, give you a lot of power, or a lot of dependability, but rarely both. We'll always be fortunate in one respect though, the selection of motors to pick from is fantastic.

The two basic types of motors, as far as applying the power from the motor shaft through the gears and to the road, are the sidewinder and the inline motors. The inline motors, which lay "with" the frame, as opposed to the sidewinder, which lies "crossways" the frame, are usually used in 1/32 scale cars, and are ideal for formula cars, due to the small size of the motor especially in height and width. The sidewinder is the standby of the 1/24th crowd, and will give absolutely gobs of power when it is used correctly. The sidewinder can be inserted in a 1/32 car however, especially in a coupe or larger open sports car.

The inline choice of motors is fantastic. At the head of the pack, as far as popularity, dependability, and sheer speed is concerned, we must place the Pittman DC 196. Pittman is just now coming out with an improved version of this motor but no specifications have yet been released. The DC 196, however, is a sweet little 3 pole, 12 volt DC motor that comes out of a corner like a slingshot. It is very small in overall dimensions, and therefore is a great choice of formula car owners, and it is ideal for the fellow that uses one frame-motor combination with different body shells, so he can compete in several different classes of racing without having to have many different chassis-motor combinations. The Pittman sells for a very economical \$3.95 (if you can get one) and the shortage of Pittman motors on the market is certainly proof of their popularity.

Next most popular, generally speaking, are the new Revell

Pittman RP-66 & 77's. These are special 5 pole motors made for Revell by that man Pittman, and are z-m-o-o-t-h and fast. They are easier to drive than the DC 196, at least in my opinion, and are ideal for long, hard endurance racing, as well as sprint racing. Each motor sells for \$5.00. The RP-66 will also fit in a Grand Prix car with very little trouble, and the spring-tensioning mechanism for the brushes can easily be placed inside the frame. Instead of outside as it is now, to obtain that extra bit of room that is so often necessary.

The V.I.P. motor/chassis unit is a wonderful little device that is small enough to enable it to be crammed into your favorite formula car, even if you have six thumbs on each hand. It is as easy to drive as any motor available and in the right chassis would be a very easy car to drive the long enduros with.

The Lindsey motors, especially the L190, is, in my opinion, the deadliest little motor you can find, and the only reason it isn't heard from more, is the fact that there aren't all that many of them made. They are carefully made, and very well designed motors, but are pretty hard to find except in the larger cities with very well stocked hobby shops.

The little Airfix motor from England is another hot 3 poler that will win for you if you keep it in a very lightweight chassis. It is a hard motor to get your hands on though, and the chances of it ever becoming really popular are slim, in my opinion, due in great part to the fact that a really lightweight chassis is both harder to build than an ordinary, over-the-counter car kit, and it is also harder to drive. A medium weight chassis with a 5 pole motor is usually easier to drive than a super-flea weight chassis with a 3 poler.

This short list of inline motors does not take in all the possible winners, naturally, for that elusive "winner" title can be placed on some very unlikely motors, if that motor belongs to, and is tuned by, the right man. If you have a favorite motor, be it inline or sidewinder, and it is not on the "popular" list, don't worry a bit. Just go ahead and experiment and work with it, and you may come up with a winner, yourself.

We couldn't possibly leave the inline motors without mentioning the motor that probably started more slot racers than any other motor. That motor, of course, is the Mabuchi, as it is used in the Strombecker cars. It is a fine little motor that is made in Japan. It has 3 poles, and is well designed and inex-

pensive. It may not dust off a Pittman, but you can buy one in just about any hobby shop, and if it is kept clean and properly tuned it will go well.

The sidewinders are a different breed of cat. I've always been partial toward the little brutes, and I have managed to stuff one or two of them in a 1/32 chassis with good results. This data deals mainly with road racing motors, but if we were to talk about dragging we would find it would have to deal with sidewinder motors almost exclusively. They are big, powerful and easy to install. Just about any sidewinder motor has enough torque to dissolve tires on a dragster, and with the proper gearing they can be absolute terrors on a road course.

With the sidewinders we can really see some extremes in speed and reliability, but strongly enough, trying to find a real favorite is much tougher than in the inline motor classification.

Personally, I would have to rate the best all-around motor for speed, ease of installation, and reliability, as being the Pittman DC-705. It is an improved version of the DC-704, with better weight distribution. It still has 5 poles and its own built-in gears, and it is an extremely easy motor to handle.

Performance-wise, the Bonner double end shaft motor can be used as an inline or a sidewinder, and it will GO! It started out as a 4-1/2 volt model airplane unit that was quickly pressed into service with the advent of slot racing. It has five poles and is smooth and easy to drive after you get over the initial shock of seeing it go so fast. Unfortunately this motor doesn't have the greatest reliability record in the world, but for that sort of performance, a guy can overlook a lot of little faults. For the sprints you'll be hard-put to find a better sidewinder. My choice for long races would be the DC-705, and for sprints, the Bonner. At \$3.95, the Bonner is a bargain, and for \$4.95, you can't buy more performance and reliability than the DC-705. You pay your money and take your pick. Myself, I'm weak-willed, and I have both motors. I couldn't bear to choose just one, because that would mean rejecting one.

A seldom-used motor that is truly a jewel is the Wilson. I bought a Wilson strictly as an experiment, and have used that motor as much as I have any other motor in my kit. It is smooth, powerful, and deadly reliable. It too is a double-end shaft motor, and can be used as a sidewinder or an inline. It

has 5 poles and really twists up a storm, having a no-load speed of 28,000 rpm. For \$4.00 you can afford to experiment.

The last of the really popular beasts is the Kemtron. It is used mostly for dragging, but to stay glued together it requires quite a bit of extra work. For road racing however, it will do the job if you have the reflexes to handle the speed, and it will hold together as well as a Bonner. It is a pretty big motor however, and I have never seen one used in a 1/32 scale car.

Like any other mechanical device, a motor will only give its best performance when it is properly cared for and tuned correctly. "Tuning" a slot racing motor is a far simpler job than tuning an internal combustion engine, as there are far less variables. There's really not too much "souping" that the average slot enthusiast can do to his motor, but he can keep it in top shape. The brushes should have enough material left, naturally, so they don't need replacing, and should be spot-clean. Use a test block, such as is sold by Dynamic Models, and slowly run your motor. Use fine sandpaper and buff up the commutator until it is nice and shiny. Remove the brushes and pour a little carbon-tet on a soft cloth and wipe the commutator clean. Dig out any sandpaper particle or dirt between the commutator sections and blow the rest of the dirt off. Install the brushes and give everything a final wiping off. Give the bearings a tiny shot of lube oil and go racing.

The dragsters require really drastic butchering in order to get the fantastic performance necessary to get in the "win" column at the dragstrips. The regular bearings are usually pressed out and discarded, and ball bearings inserted and locked in place with epoxy. Remagnetizing is necessary after an operation of this sort, and whether or not it is worth the trouble is debatable. Myself, I have always felt that a good brass or alloy bearing is far more rugged and just as frictionless as ball bearings when you are working under loads as light as a slot car imposes on something as rugged as a 1/4" O.D. ball bearing.

An absolute "must" for a dragster motor, however, is the coating of the armature windings with a couple of coats of epoxy cement. At the rpm's these motors turn, things have a tendency to come "unglued" unless you retaliate with glue. Don't get any on the commutator however, or your car will STAY glued, to the starting line, that is.

**VARNEY KM-1** — This is a Varney-engineered, high-revving powerplant manufactured in Japan to Stateside specifications. It is a 5-pole permanent magnet design with an armature measuring 19/32nds of an inch in diameter. Brush tips are copper graphite retained by a horseshoe-shaped spring. It is of small physical size (see box chart) and will fit into many bodies in both 1/24th and 1/32nd scales.



**TRADESHIP MK. 70** — This unit is the largest motor in the line-up. It carries a 7-slot armature with a sizeable 13/16ths of an inch diameter. The brush holder is adjustable so that timing can be changed through twenty degrees. Like the smaller motor from the same firm, this model appears to be well built and should withstand a lot of hard usage without trouble.



**PITTMAN DC 195 A**—The smallest motor in the line. It must carry light loads for long use. Armco-iron pole pieces, rustproofed. Alnico 5 magnet, five-slot armature ground to 17/32 diameter. The commutator is ground true after assembly. Brush tips are copper graphite. Winding is for 12 volts DC.



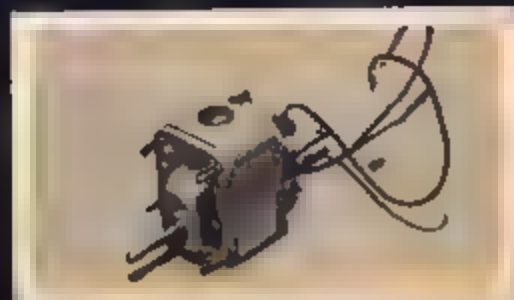
**PITTMAN DC 70**—A powerful, low cost motor. Pole pieces are low carbon steel rustproofed. Alnico 6 magnet. Five-slot armature of silicon steel is ground to 5/8-inch diameter. The commutator is nylon insulated and ground true after assembly. Brush tips are copper graphite. Winding is for 12 volts DC.

**PITTMAN DC 62B**—Pole pieces are Armco-iron rustproofed. Magnet is Alnico 5. The five slot silicon steel armature is ground to 17/32 diameter. Commutator is nylon insulated and ground true after assembly. Windings are double insulated wire, varnish dipped and baked. Brush tips are copper graphite. Winding is for 12 volts DC.



**PITTMAN DC 65**—A double-end shaft motor with die-cast metal end plates clamping Armco steel laminated pole pieces. Magnet is Alnico 6. Five-slot armature of silicon steel is ground to 17/32 diameter. Commutator is ground true after assembly. Windings are heavy Formex insulated magnet wire, impregnated and baked. Brush tips are copper graphite. Windings are for 12 volts DC.

**PITTMAN DC 85A**—A double-end shaft motor with die-cast metal end plates clamping Armco steel laminated pole pieces. Magnet is Alnico 6. Five-slot armature of silicon steel is 3/4-inch diameter. Windings are heavy Formex magnet wire, impregnated and baked. Commutator is ground true after assembly. Brush tips are copper graphite. Windings are for 12 volts DC.



**PITTMAN DC 71B** — Pole pieces are low carbon steel, zinc plated. The oversize magnet is Alnico 6. Five-slot armature of silicon steel is ground to 5/8 inch diameter. Commutator is nylon insulated and ground true after assembly. Brush tips are copper graphite. Winding is for 12 volts DC.



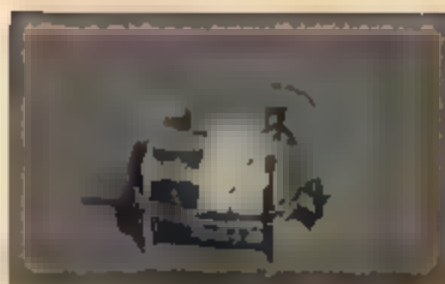
**PITTMAN DC 704A** — No official release is given by the factory, however the motor has an attached spur-drive axle geared to 3:44 to 1. We would assume that the same care in construction and material would be used as in the other Pittman motors. It has a winding for 9 volts DC and the armature is 5/8-inch diameter.

**PITTMAN 9003** — Ceramic magnet, double-insulated armature windings, impregnated and baked. Brushes are copper graphite. Armature shaft is 1/8-inch stainless steel. No other official information on this motor is offered by the factory.

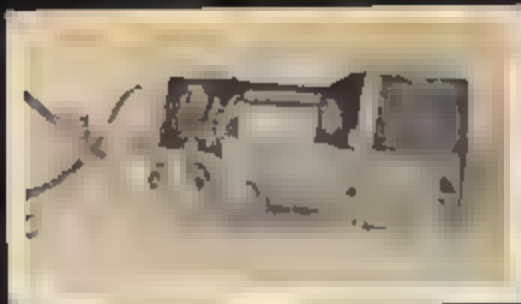


**BONNER** — A double end shaft motor with nylon end plates. Pole pieces are drawn quality steel, rustproofed. The dual magnets are Alnico 5. Five-slot armature of silicon steel is ground to 35/64-inch diameter. Commutator is ground true after assembly. Brushes are 93 percent silver, 7 percent graphite with Birmilium copper springs. The higher the voltage used, the lighter the load must be to maintain longer life.

**WILSON 875** — A double end shaft motor with aluminum end plates. Pole cover is steel, rustproofed. The circular magnet is ceramic (birium Farite). The armature of silicon steel is ground to .590-inch diameter. Commutator is ground true after assembly. Brushes are copper graphite, coil spring loaded. The higher the voltage, the lighter the load should be for long life.







**TRADESHIP MX 7** — Rather than rely on guesswork we are forced to eliminate much technical data on the motors on this page due to lack of information. This new motor carries a permanent magnet with a 7-slot armature of a healthy  $21/32$ nds diameter. It appears well built and contains self adjusting, copper coil spring-loaded brushes. Overall the unit seems built to withstand a lot of hard use.

**REVELL 66** — This is the smaller of the new motors and, like its larger counterpart, promises to produce long life, and lots of high-rpm's without harm. The 5-slot armature has a diameter of  $17/32$ nds of an inch. Also like its bigger brother, the 66 has brush tips of copper graphite and are coil spring-loaded. Though these new Revell motors have different outputs, both retail for an identical \$5.00



**REVELL 77** — As was to be expected from this well known firm, their new motor promises to enjoy great popularity and, luckily, it seems capable of withstanding years of use. This is the larger of the two Revell units and has a 5-slot armature of  $5/8$ ths diameter. Brush tips are copper-graphite, spring loaded. This motor will be available in the new Revell slot cars; or hobby dealers will soon be handling it separately.

**PITTMAN 196** — This is the latest in a long line of quality motors, bringing the total number available for slot racing to nine. It has a 3-slot armature with a diameter of  $17/32$ nds of an inch. The integral rear motor bracket doubles as an axle retainer, drilled to handle a  $3/32$ nds-inch shaft. The brush tips are copper graphite, and like the other Pittman products, this motor should see high popularity



**MICRO PERM** — This is the smallest motor in the line up, checking in on the scales at one-half ounce (without gearbox). It has a full wrap around magnet and a 3-slot armature of  $27/64$ ths-inch diameter. The gear box comes with 3:1 bevel gears and a short axle shaft of .083 ins. diameter. The midget but potent unit is manufactured in Germany and imported here by Marx, sells for a very reasonable \$4.95.

# MOTOR SPECIFICATIONS

Motor make	Number	No. load speed	Operating speed	HP output at operating speed	Amps operating speed	Weight (ounces)	Height	(In inches) Width	Length	Average retail price
Pittman	195A	19,000	17,000	0018	42	1 1/2	1 1/2	3/4	1 5/8	\$5.50
Pittman	52B	15,000	12,500	0021	42	1 3/4	1 1/2	3/4	1 3/4	4.75
Pittman	70	26,500	14,000	0039	67	2 3/8	5/8	7/8	1 7/8	5.25
Pittman	71B	12,000	9,000	0042	67	2 3/4	5/8	7/8	2 1/8	6.50
Pittman	85	15,000	11,500	0032	53	2 1/8	3/4	1 3/8	1 1/2	6.50
Pittman	85A	11,500	8,700	009	106	4 1/2	1 1/2	1 3/8	1 3/8	6.00
Pittman	704A	15,500	13,000	NA	5	2 1/2	27/32	1 1/2	1 5/16	4.95
Pittman	9003	NA	NA	NA	15	7 1/2	1 3/4	2	2 1/8	7.50
Pittman	196	20,000	18,000	NA	.53	1 1/2	1/2	1 5/8	1 5/8	3.95
Bonner	Duramite	NA	8,500	1 15	7	1 2/5	1 1/16	1 1/8	1 5/16	3.95
Wilson	B75C	25,000	24,000	NA	NA	1 1/4	7/8	1	1 1/4	4.00
Tradeship	MX7	NA	17,000	NA	NA	2-7/8	5/8	7/8	2 1/8	5.25
Tradeship	Mk 70	NA	NA	NA	NA	2 7/8	1	1	1 15/16	6.50
Revel	66	NA	16,500	NA	NA	1 1/2	5/8	1 1/2	1 13/16	5.00
Revel	77	NA	18,500	NA	NA	2	5/8	1 1/2	1 13/16	5.00
Micro-Parm	2000B	24,000	NA	NA	4	5/8	21/32	21/32	15/16	4.95
Varney	KM-1	NA	NA	NA	NA	1 1/2	5/8	3/4	1 1/16	3.95

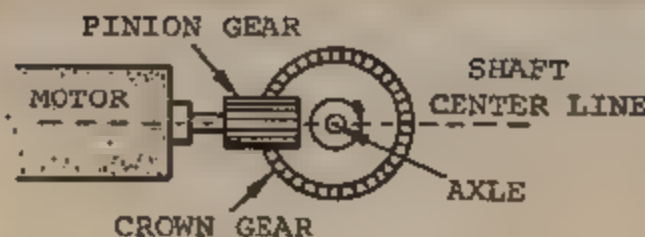


Fig. 1 - Side View

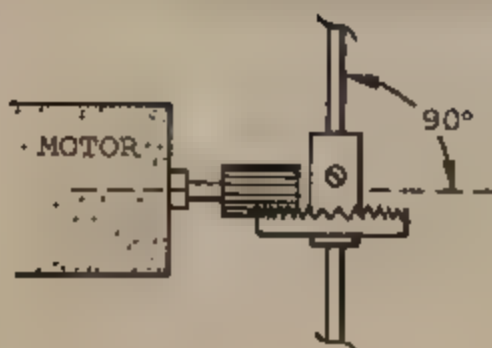


Fig. 2 - Top View

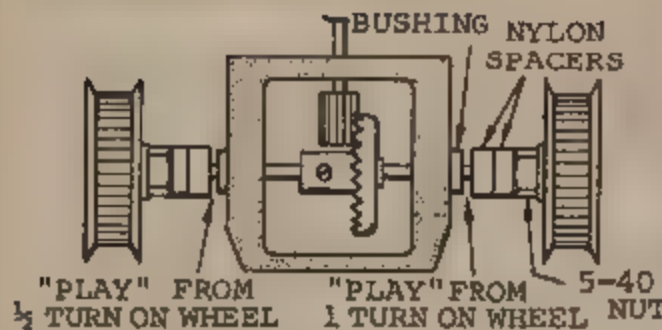


Fig. 3 - Exaggerated Bottom View

## TUNE-UP TIPS from Revel

After you are sure that your racing motor is performing properly, here are some other things to check out in order to get peak performance from your model racing cars.

1. Make sure the rear axle spins freely in the axle bushings. Check the frame alignment at bushing points. Carefully straighten the frame if it has been twisted or bent. Sliding the axle back and forth through both bushings will help seat the bushings at the proper angle.
2. The motor shaft should be on a line that intersects the rear axle at dead center when viewed from the side. (See Figure 1)
3. The center line of the motor shaft should also intersect the axle at a 90° angle when viewed from the top. (See Figure 2)
4. Proper gear mesh is very important. Never bottom the teeth — gears set up too tightly always result in a poor running car. To correctly mesh your gears, bottom the gear teeth and tighten both 5-40 axle nuts and wheels up against the nylon spacers. Then back off the wheel 1/2 turn on the side of the axle closest to the hub side of the crown gear. Now jam the 5-40 nut against the wheel to lock it in place. Back off the wheel one turn on the other side of the axle and lock in place with nut. (See Figure 3.) Gear should now turn quite freely in a positive manner. Rapid gear wear will result if only the tips of the gear teeth meet. Maximum performance is obtained when the gears contact each other just enough to make positive transmission.
5. Mount the body and check to make sure that both axles and all moving parts have enough running clearance. If nylon spacers touch the body on G.P. cars, enlarge the axle openings slightly or readjust the chassis length. Motor brushes and spring plunger assemblies should not contact either frame or body.
6. If your motor still seems to lack performance, try experimenting with different gear ratios. Keep in mind that the size of your tires will also affect the overall drive ratios. Finally, make sure your pickup is properly installed and is making constant electrical contact with the track.

Each one of the following factors affects the performance of any model car racing motor:

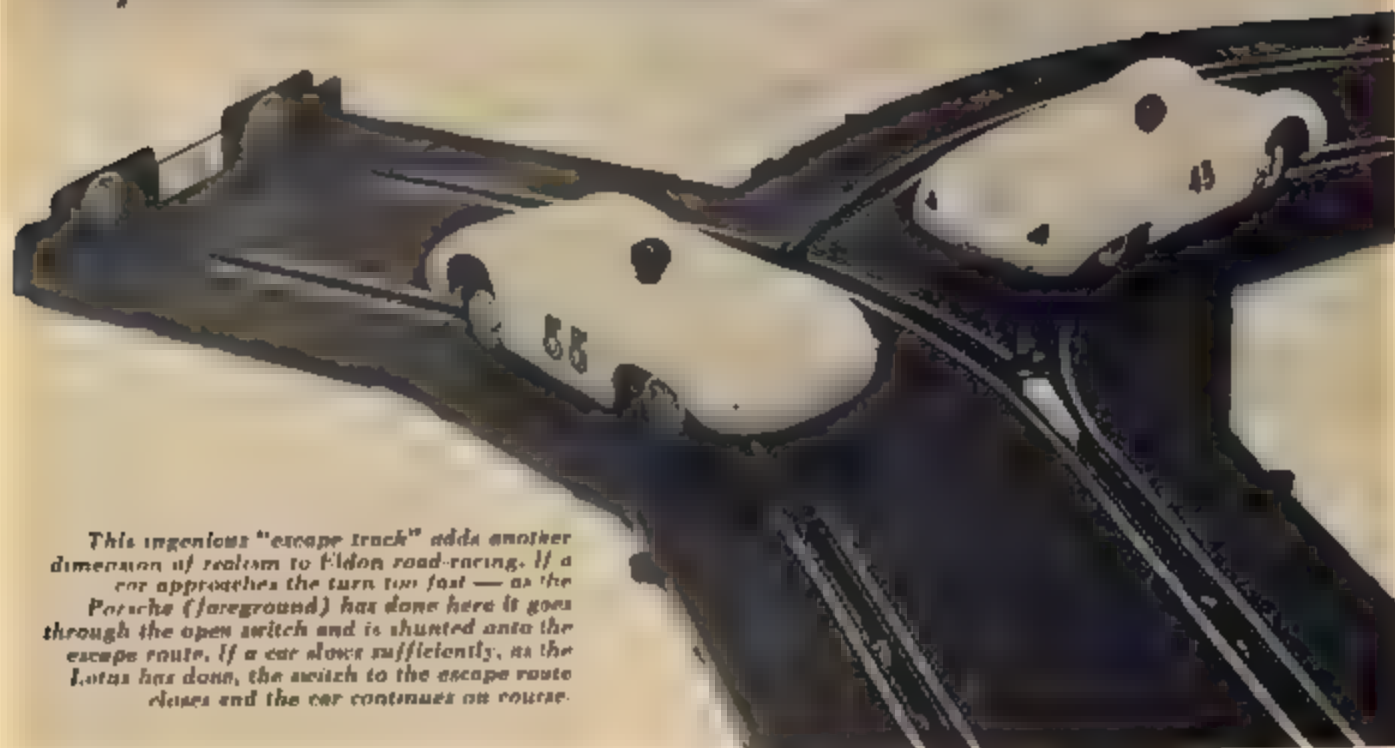
Gear Alignment  
Gear Mesh  
Bearing (or bushing) Friction

Frame Alignment  
Gear Ratio  
Tire Size

Interference with Brush Spring Assembly  
Electrical contact with Track  
Track Voltage  
Interference with Moving Parts



## Here's a New Device You Can Buy or Build for More Track Realism



*This ingenious "escape track" adds another dimension of realism to Eldon road-racing. If a car approaches the turn too fast — as the Porsche (foreground) has done here it goes through the open switch and is shunted onto the escape route. If a car slows sufficiently, as the Lotus has done, the switch to the escape route closes and the car continues on course.*

# ESCAPE ROUTE TRICK

by George Siposs

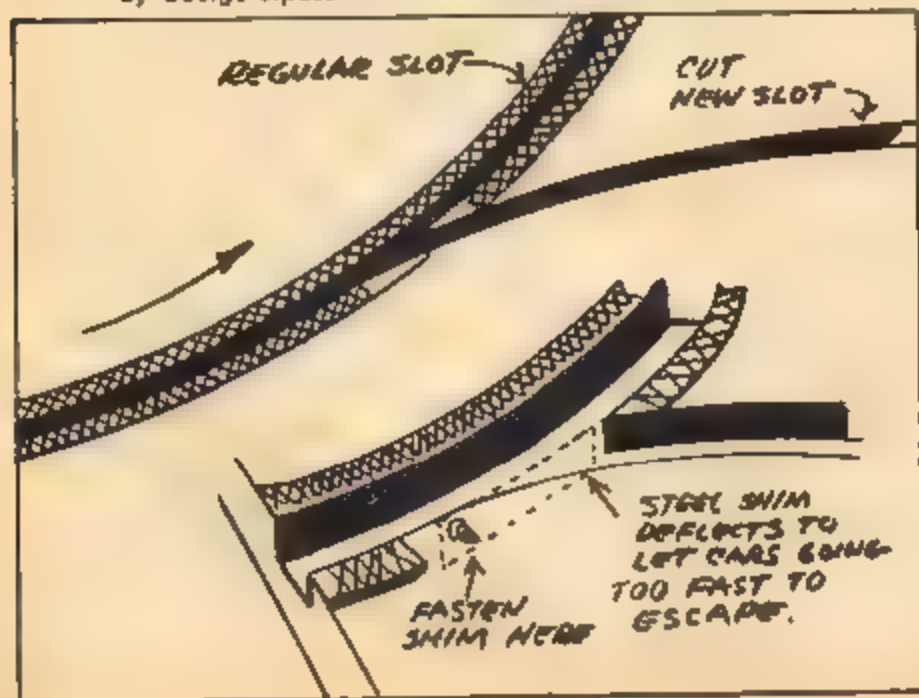
In regular sports car road racing, an escape route is always provided on the outside of dangerous corners to permit cars that would crash out due to their too-high speed, to take to an escape road. The car slows down on a deserted, safe, section of road and can get back to competition instead of being damaged. Corner marshals usually have to give the all clear signal to the car that left the road, before it can return to the track.

in order to avoid crashing into oncoming cars.

A very realistic escape route can be built into your own home-made track. Route a slot in a tangential direction at every (or at least some) dangerous corner. Only the outside lane has the escape route slot built in of course, since the inside tracks would have to cross the others and, being inside, they are considered to be safe anyway.

The slot can continue for as little as 6 inches, if it has a gradual rise to lift the car gently out of the slot. At the end of the escape route, place a "haybale" (styrene plastic or foam rubber) to stop the cars. Of course electrical tape is not required at this section. Just connect the tapes on the outside through which you cut the slot. Insert a spring steel (.010") or strong plastic shim into the outside slot section as shown in the sketch. When a car negotiates the turn at a fairly safe speed, the spring pressure will keep it in the slot. Above a certain speed, the shim will deflect, allowing the car to come to a safe (and REALISTIC) stop on the escape route. This is far less damaging and more realistic than de-slotting or falling off the table.

The Eldon company has a similar "trick section" on the market to be used with their regular 1/32 scale tracks.



# RIVERSIDE RACEWAY

## SCALE TRACK SERIES

### THE PROTOTYPE

"Riverside" means road racing to most fans. It is most noted for the publicized "Times Grand Prix" for sports cars each fall. It is the site of the annual SCCA sports car divisional championships and this November will see the first SCCA NATIONAL championship race; it is also the site for numerous stock car road races.

The USRRC also holds annual events on the Riverside course. Their most recent race was won by Skip Hudson in a Cooper-Chevrolet.

The 2.6 mile course shown on the plan is the course used for the Times G.P. The longer course (dotted line) is 3.27 miles. This circuit provides much variety for the enthusiast. It has long straights as well as tight "S" turns. Both sports and stock cars will be at home on a model of Riverside Raceway!

by Robert H. Schleicher

### THE COURSE IN MINIATURE PLAN NUMBER 2

This layout is drawn to indicate the 2.6 mile short course for Strombecker or Kal Kar track sections. The model is set up on four 4' x 8' table sections for moving or storage. The dotted extension will add 6 feet per lap.

Your Riverside course could be started with a simple 2 lane oval on the start finish area and then extended in 2 lanes to the total plan. Later, as budget permits, the last 2 lanes can be added.

The chart shows the number of track sections necessary for Eldon, Varney, or VIP sections in addition to Kal Kar and Strombecker.

### PLAN NUMBER 3

Plan number 3 is designed for HO construction. The SHORTER course here

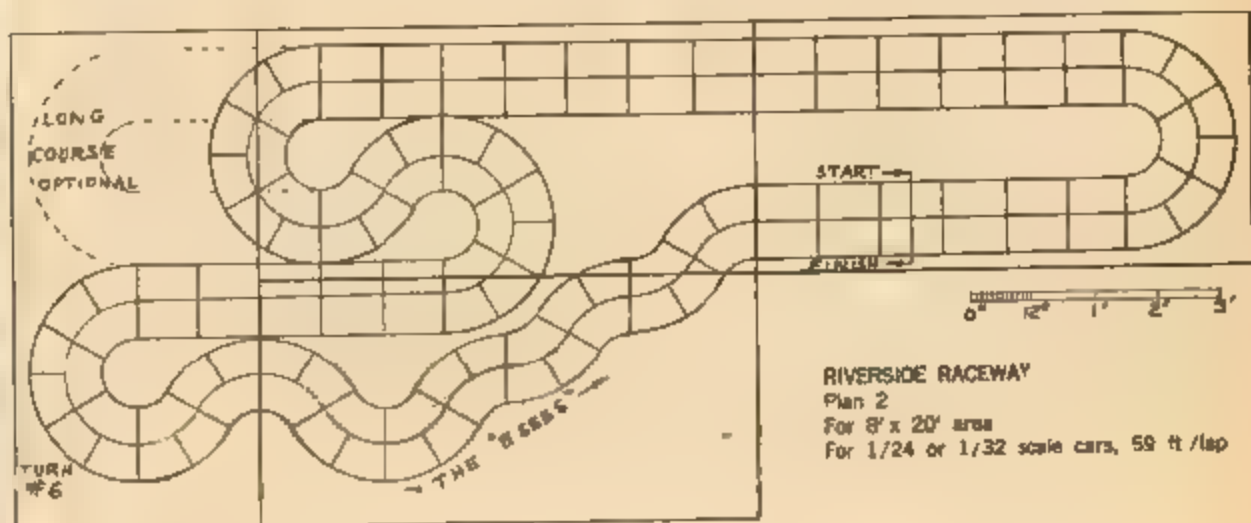
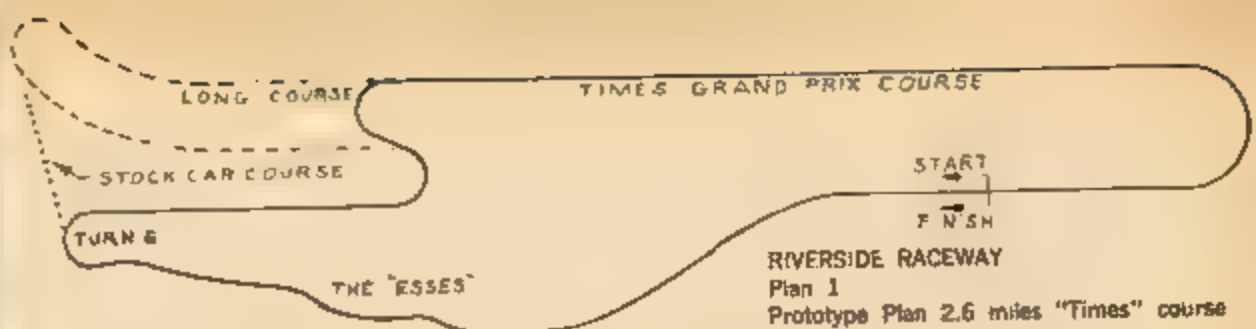
is shown in dotted lines. Again, the course could be started as a 2 lane oval, then extended. Since other brands and scales of track use similar 90 degree (or 45 degree) segments of a circle, the chart shows the track required for these.

### PLAN NUMBER 4

Plan number 4 is drawn to scale for those who wish to route their own track from 4' x 8' particle board sections. (See back issues of MCS for routing information.)

The plan indicates the all important curve centers and start and stop points of curves, for proper routing. This plan also shows an optional long course for those who prefer the extra 7 feet per lap of racing.



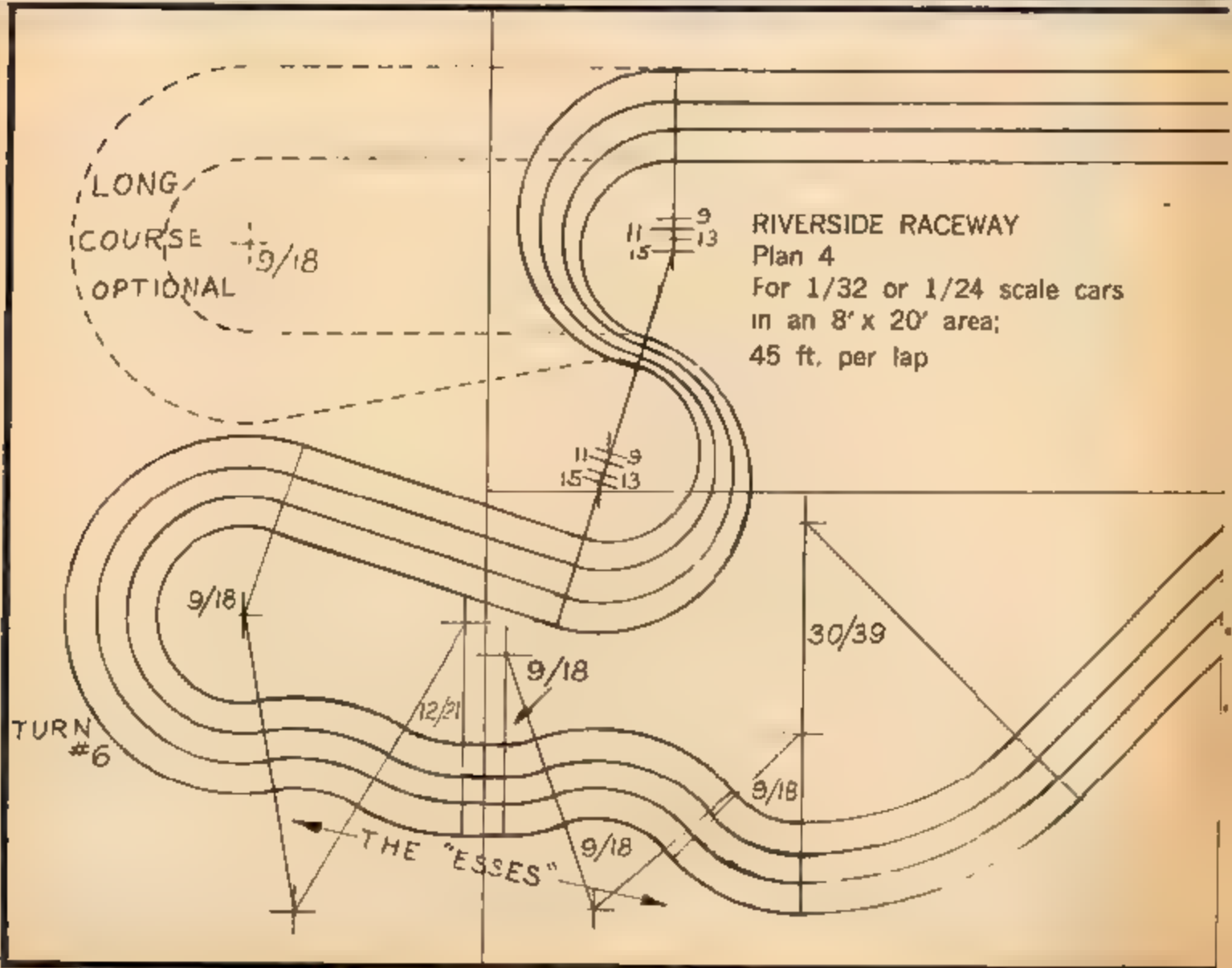


### Riverside Raceway Plan #2

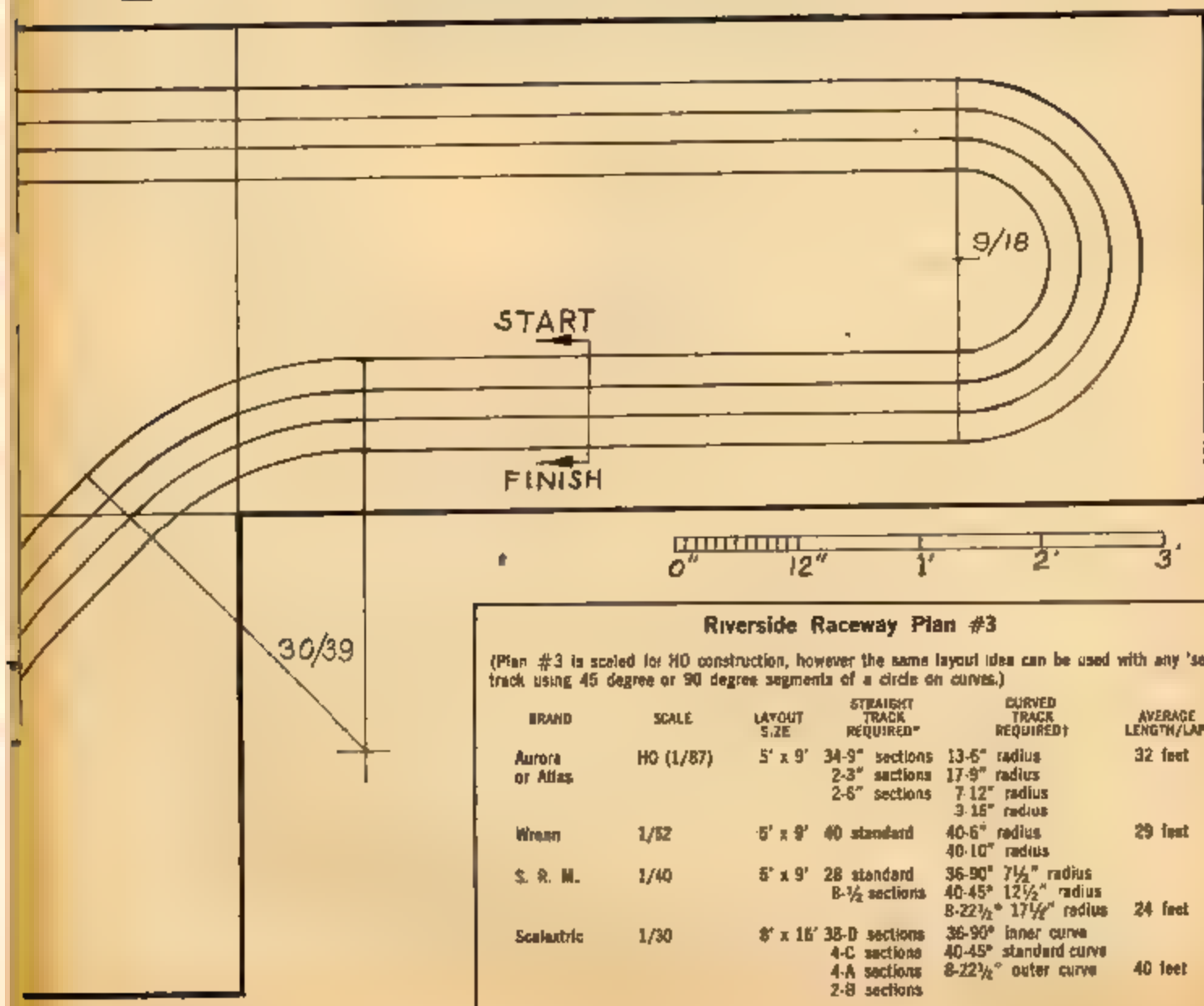
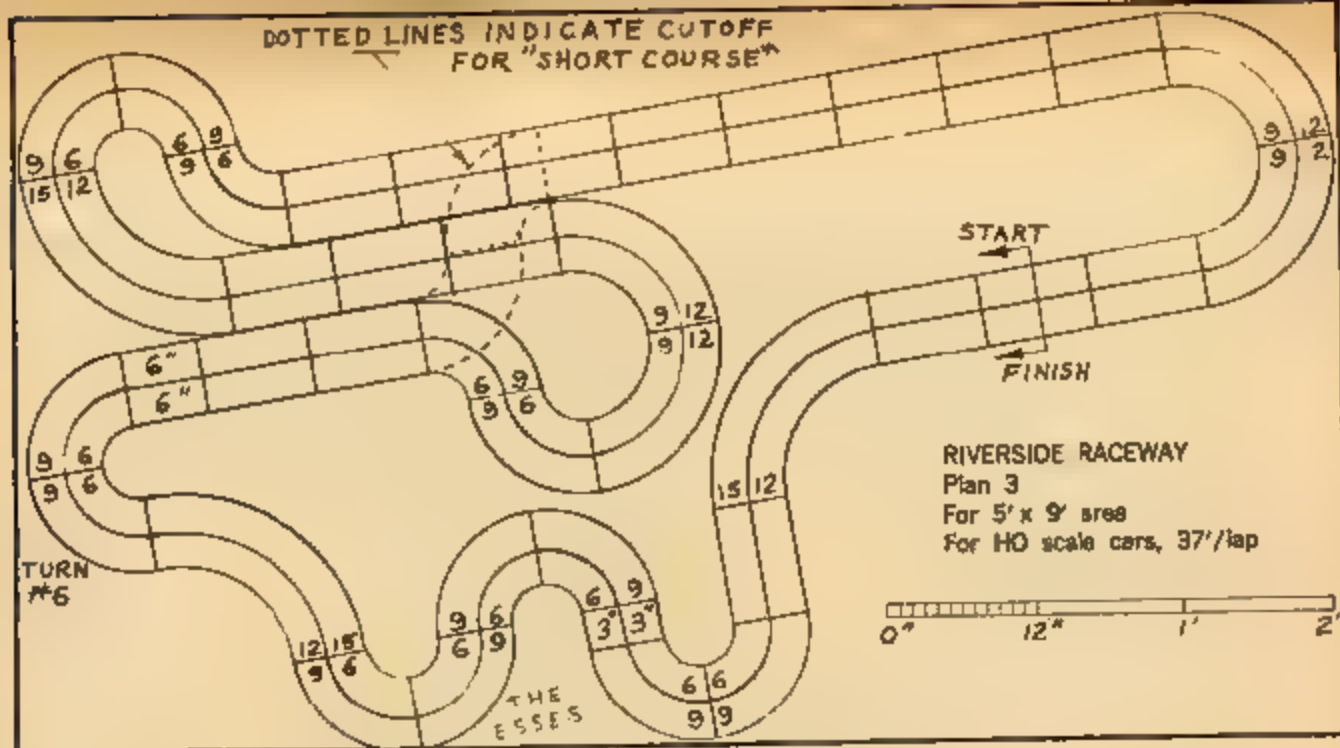
(Plan #2 is scaled for Strombecker or Kal Kar track, however the same layout idea can be used with any set track using 60 degree segments of a circle.)

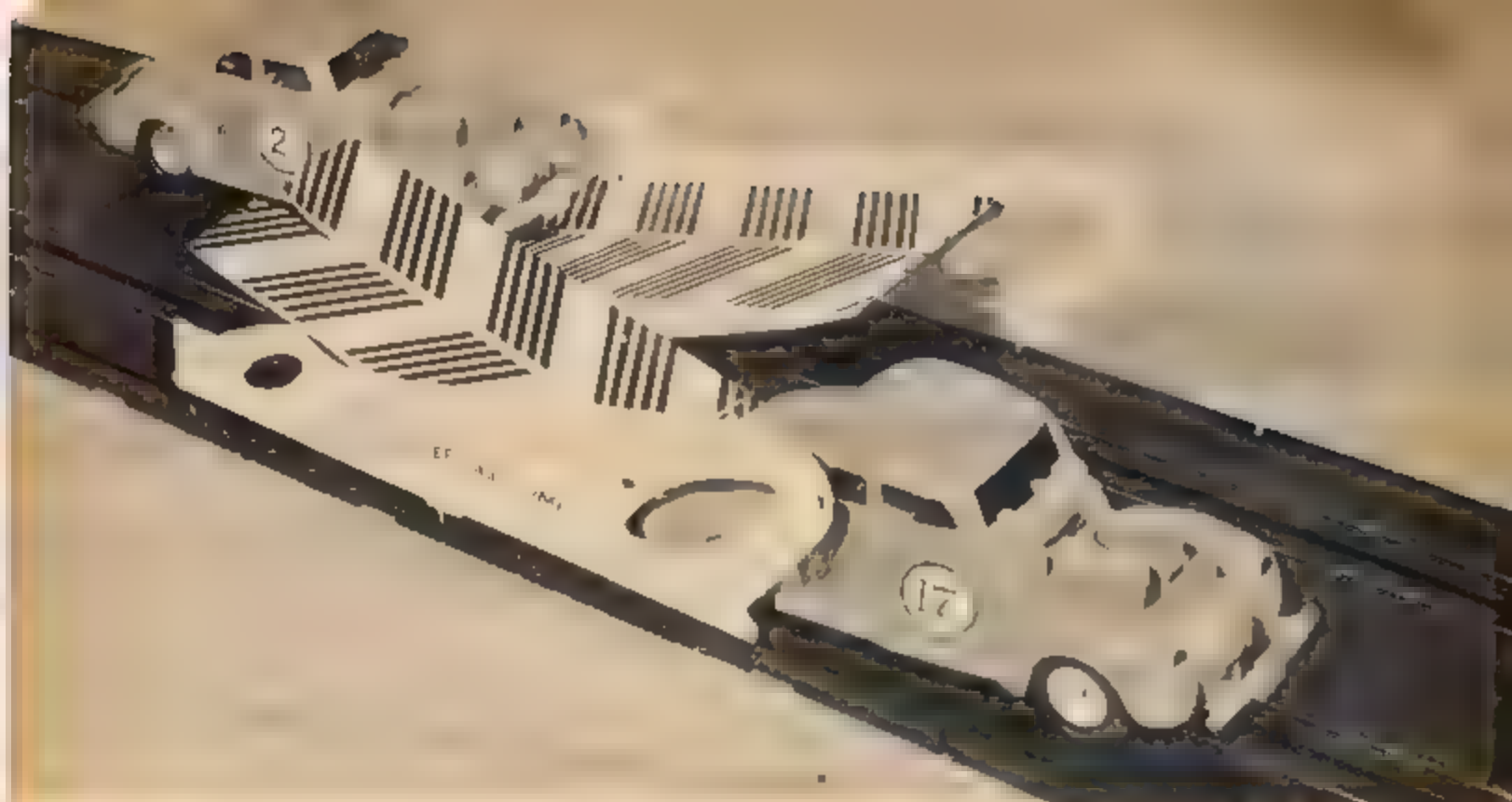
BRAND	SCALE	LAYOUT SIZE	STRAIGHT TRACK REQUIRED*	CURVED TRACK REQUIRED†	AVERAGE LENGTH/LAP
Strombecker	1/32 or 1/24	8' x 20'	48 sections	24 standard 48 outer	51½ feet
Kal Kar	1/32 or 1/24	8' x 20'	48 feet two lane	4 full 14" radius circles 4 full 22" radius circles	51½ feet
Eldon (2 lane only)	1/30	8' x 20'	28 sections	24 standard	49½ feet
Verney (2 lane only)	1/32	8' x 20'	28 sections	24 standard	50 feet
VIP (2 lane only)	1/32	8' x 20'	28 sections	24 standard	49½ feet











GILBERT'S AUTO RAMA RACING WITH THE SEE-SAW RAMP THAT CAN ALSO BE CONVERTED TO AN EXCITING JUMP

# LARGE SCALE THRILLS SEE-SAW RAMP ON A SMALL SCALE BUDGET

by George Siposs

The Gilbert Company recently introduced this special accessory for their line of tracks and cars. If you have a home-made set and would like to incorporate the idea into it, it can be done with very little effort.

First remove an 18-inch section from your track, then build a connecting piece under the remaining track sections. Make this from 3/4-inch plywood. Erect an upright bracket in the middle of each side and drill a 1/4-inch hole into each as shown in the sketches. Now make the see-saw ramp out of 3/8" thick plywood strips cut to a little longer than 19 inches. A two lane track is illustrated but one could make this into a multi-lane track.

Since only one car is using the track while the trick is done, perhaps you will be satisfied with a ramp on only one track.

The 3/8" plywood strips are nailed to 1/2" x 1" x 6" cross pieces leaving a gap of 1/8-inch in between them. In the center of this section, nail a 1" x 2" x 6" piece to serve as a pivot. Drill a hole at each end of this piece. Now mount copper or braided tape on the sides of the slot in the usual manner. At one point lead a wire from the tape, through a hole, to the underside of the ramp. This wire will be connected to the regular tapes of the track so that full control can be maintained at all times.

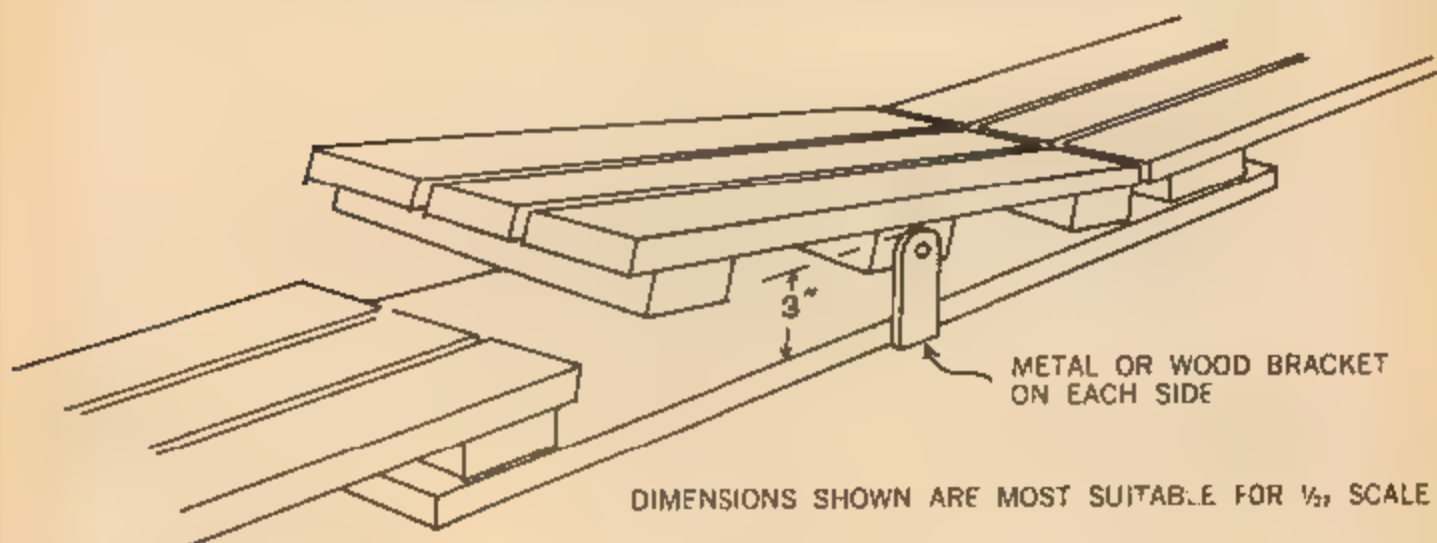
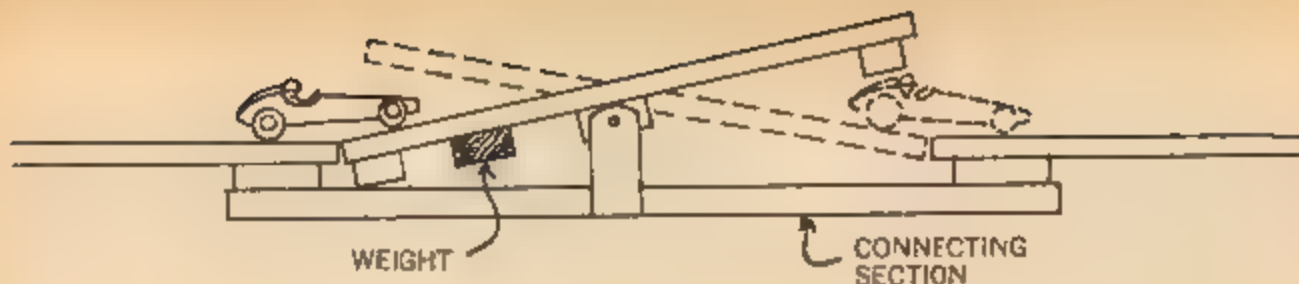
Mount the ramp between the uprights using two woodscrews properly oiled so

that the ramp will operate as a teeter-totter. Attach a small weight under the ramp on the approach side so that it will always return to the "approach-down" position.

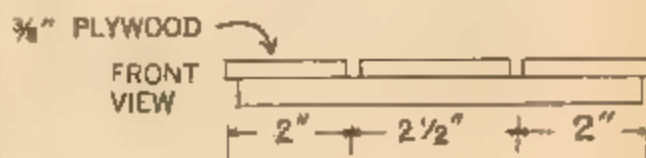
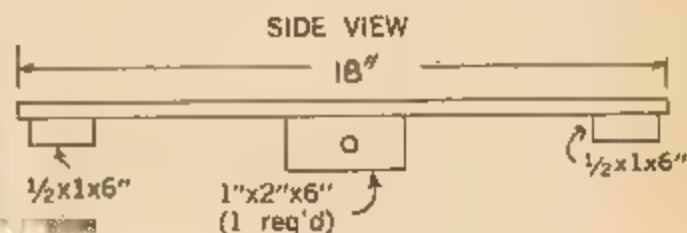
When the ramp is properly set up, aligned, and electrically connected, you can drive your car up on it, carefully balance it, then drive on to the level sections. This type of driving is seen mostly on sports car gymkhanas. In order to allow you to back the car up (if the center, balancing, section is overshot) you can incorporate a D.P.D.T. reversing switch into the control circuit.

This system can be made for any scale track, HO, 1/32 or 1/24. Just use your present slot spacing as a guide.

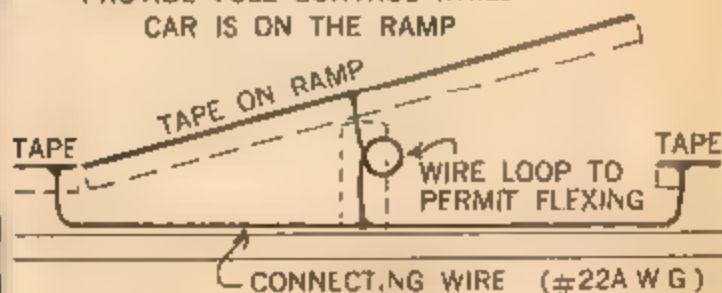




DIMENSIONS SHOWN ARE MOST SUITABLE FOR  $\frac{1}{2}$  SCALE



ELECTRICAL HOOKUP TO PROVIDE FULL CONTROL WHILE CAR IS ON THE RAMP



WIRING DIAGRAM FOR ONE TAPE  
NOTE: THIS HAS TO BE REPEATED TWICE FOR EACH SLOT USED

By skillful maneuvering, the driver gives his car the "full" throttle and up the ramp he goes on a Lionel Skull-Tilt Chicane



# THE CASE FOR HO

8 NEW IDEAS FOR MORE FUN WITH 1/87 SCALE

By Richard Howard

With the knowledge that big scale boys regard H.O. as more for the kids, this article is intended to help explode this myth, the same way the belief that 1/32 and 1/25th racing was a kids game has been exploded.

There is no answer to apartment racing other than H.O. motoring. For every apartment has a 4' x 8' space somewhere; even if you must suspend it from the ceiling. On this size board a 2 or 4 lane track can be constructed with plenty of room for landscaping, buildings, and even a H.O. gauge railroad running through it.

Both Atlas and Aurora make road and rail crossings that will add a lot of suspense to any race. Literally thousands of scale buildings, trees, shrubbery, bushes, even people are available at low cost to add to your layout.

Moving is no problem as the board can be tied to the roof of any car or wrapped and shipped by railway express at low cost.

Such goodies as telephone poles, working streetlights, trolley cars, and engine sounds are on sale everywhere. They even have a house on fire with flames coming out of the roof and a fire pumper hosing real water on it. How is that for a conversation piece? If you have an area for a 4' x 8' table, you can build the layout on the table and when it is not in use, a plywood cover over the top can convert it for ping pong, or a king size game and card table; and that road race is the ice breaker at any party.

## TRICKS FOR YOUR TRACK

1. Try a jump ramp by replacing the standard 9" section with a 5" or 7" piece of track. On the take off side use a 1 1/2" trestle or wood block. On the landing ramp use a 1" trestle or block. It is important that the slots match up and the track be anchored to prevent it from shifting out of position. You will also need some build up and shut down straights before any curves. There are two basic ways to use the ramp number of jumps without missing slot or distance before touching down. Use dowels or lines to mark off the distance and don't forget good sportsmanship.

2. Police pursuit This can be a lot of fun anytime. A lot of skill is required, but all you need is one set of crossover track and you are in business. The object is for the police car to force the hot rod off the road by any means. That includes blocking at the crossovers, hitting the hot rod at the curves,

*Once the scenery is up to snuff, HO buffs should investigate all possibilities for making the cars more realistic. There are many simple modifications that will improve looks as well as performance.*

backing up to block at the crossovers, corners or intersections. The police car may not park at any crossovers, ect. He must take out the hot rodder while moving. The hot rodder can only move forward and may stop for only 10 seconds at a time. The hot rod loses if he can not complete 10 laps. The police car laps are not counted.

3. Team races Teams shall be divided into equal groups. Each driver will race a set number of laps and bring car to a complete stop. The second driver shall take over, etc. If drivers have their own cars they should replace them at the changeover.

4. Grand prix racing This race is over an agreed number of laps. Corner workers are appointed to replace cars on track. A lap counter counts off laps. Judge will advise drivers when entering last 5 laps. Drivers must observe flag signals.

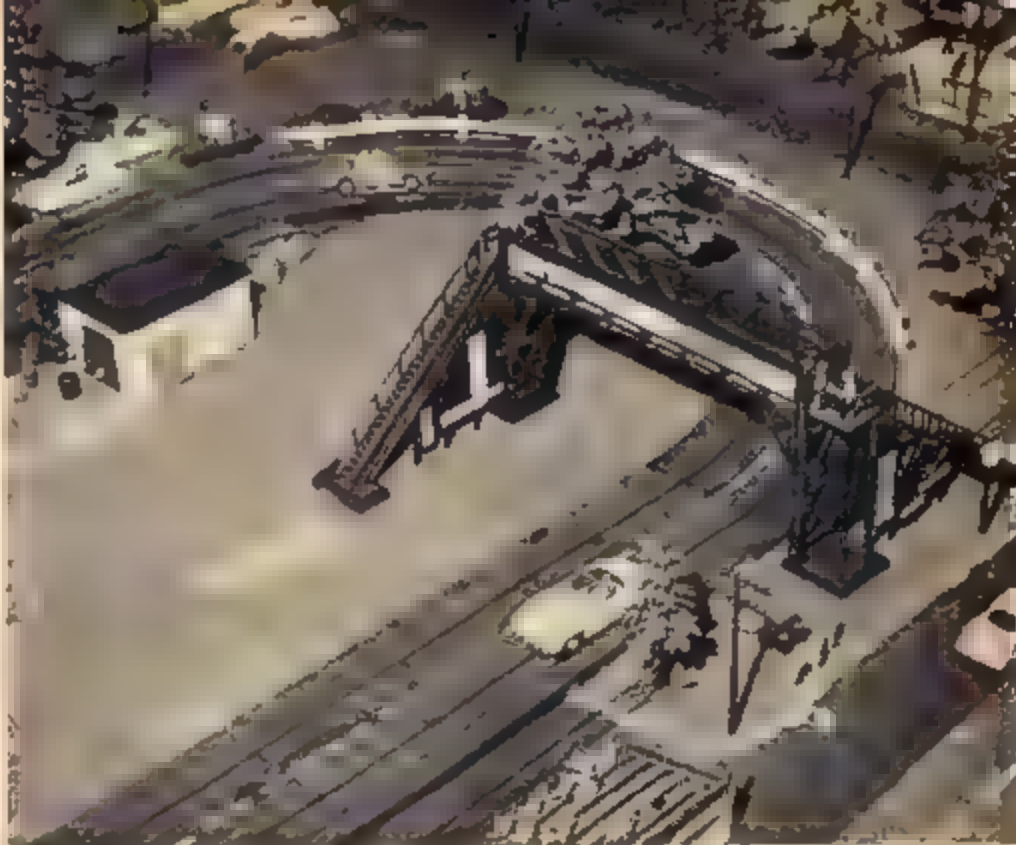
5. Le-Mans races. Drivers place their cars on track from a pit area. Races are for a given length of time. Drivers will then complete as many laps as possible. A lap counter should be used to count off laps. Judge should advise each driver upon entering last 30 seconds of race the number of laps driven.

6. Tournament racing Any number of drivers may take part. Every driver races against everyone else. Results shall be tabulated football fashion with 3 points for the winner of each race. Two points if on the same lap at the end of race. One point if still running. Nil if retired for any reason.

7 Time racing All drivers must qualify by time trials over an agreed number of laps. Drivers should be permitted to make as many timed attempts as time permits. 2, 3, or 4 fastest drivers then take part in the race.

8. Drag racing. Shall consist of best out of three runs on a scale 1/4-mile strip. Lanes should be switched at the end of each run.

*There are hundreds of HO accessories that will add more realism to your track. Cost is very low for most of these items and many can be easily constructed by anyone half-way handy with a razor knife and a tube of glue.*





# Convert Your Revell 1/32 Sting Ray to a GRAND SPORT

By Dick Dobson



**B**UILDING CARS with a little character in them is still a little difficult. The GS fits the bill perfectly, not only will it make an interesting custom, but a practical race car with a successful history behind it. The GS's raced at Nassau under the MECOM banner and really shook the opposition.

The scoops and louvers easily distinguish the car from the million other Stingrays, yet the fenders serve a practical value. They allow a wide motor such as the Pittman 65 or 704 type to be used and still stay inside the limits of the body with no modification.

## Conversion Procedure

Cut out the rear window post and scribe or cut in the rear deck lines and door lines with a razor saw or sharp file. Scotch tape will make an edge to follow while cutting the outlines.

Drill two more holes the same size as the existing taillight holes on each side, then four more holes 1/16" dia. just above the license plate recess. Just behind the rear fender wells, cut in four louvers with a three cornered file.

Fenders were made from wheels in an Aurora kit. There are several coupes and pick-ups in the 49¢ series that use the same rear wheels, mine were from a *Scat Cat*. The centers of the wheels must be removed by cutting and filing until all you have left is a ring with a small flange on it. File out the wheel openings on the car so that the fender rings are a snug fit. Using about 120 degrees of each ring for each fender, glue them in place and let dry before you do the final sanding and shaping of the fenders.

The hood scoop and oil cooler on the rear deck can be built up with putty, but to keep weight down I used balsa wood for the main bulk of the shape, then finished out the sharp detail and fairings with putty. The air intake scoops over the rear wheels were cut and sanded to shape from 3/16" dowel rod.

After gluing the balsa scoops in place they should be sealed with a balsa filler,

to hide the grain lines. After the scoop on the hood is shaped properly, the original grille work in the hood is filled with putty, as are the headlight door lines.

File out the front hole below the door to take 1/8 in. tubing for the exhaust pipes. These can be formed more easily by heating over a flame until the temper is gone from the tubing.

Form a loop of small piano wire around the exhaust pipes and temporarily mount them to the rear hole in the body side. After the mounting has been checked, pipes can be painted a dull grey and smudged up with a bit of flat black.

With all lines cut in and final filling done, we are ready to prime. Spray on a couple coats, sanding and filling in between. It's a good idea to wash the car between each coat with some kitchen cleanser or the equivalent to remove the rough edges and film.

When you are satisfied with the filling and all contours, then, go back and re-cut in all lines and louvers to bring out the detail. Now we're ready for the final paint.

Since I wanted the official MECOM color I ordered it from an automotive supply house under a brand name of *Raabe*. The color is 1960 Cadillac Pelham Blue #4038. It's lacquer, but I always use it on plastic. It'll take maybe

four coats to smooth out but I like it much better than those enamels that take a week to dry, and still look sticky, and cannot be rubbed out decently. Wrinkling of the paint will be lessened if you spray lightly and let each coat dry at least an hour between coats.

Rub out the surface well with compound and then with a good cleaner. Paint in the door lines etc., and the intake areas of the scoops and louvers with flat black enamel. Apply the decals and wax several times after they have set well.

Mount the pipes and just the windshield. I cut all the other windows off the windshield to keep the weight down. The back window will have to be glued in with contact cement. Here I used sheet plastic since the original will not work now that the divider is gone from the car.

The mounting brackets in the body will adapt to most any frame with a little fudging. I chose a 65A-6 with 4-1 gears using a Speedway rear end and simple tubing front. Dynamic makes some cast mag wheels that would go good with the finished car. About anything from stock to radical will fit in the body so I'll leave that up to you. (Mine honks out well, but is a little clickety-clack on the corners.)



1 Cut in deck lines and drill holes for rear air outlet.



2 Rings cut from wheels are fitted to the body.



3 Hood scoop made from balsa and putty is added.



4 Door lines are scribed on the body.



5 Three-corner file is used on rear fenders.



6 Final puttying on hood scoop is next step.



7 Rear scoops are made from 3/16" dowel rod



8 Check fit of exhaust pipes.



9 Body lines are painted in with flat black enamel



11 Paint body, add decals and presto!



10 Chassis and motor are checked for fit.



# RACING IN THE ROCKIES

Light is not always Right

By Fred Tanderch

**I**T APPEARS that a few of the more well-known theories regarding various aspects of slot-racing are not "universal" theories; in other words, these theories sometimes work only for the most proficient builder-driver. When the average person, following the advice of the "experts", tries out these theories, often the net result is that he has a much harder time getting around the track than otherwise. He also usually fails miserably when trying to beat the "experts" in a race. Some guys just seem to have a natural ability to coordinate mind, eye, and hand together, and are tough to

beat even when driving real dogs. Their "theories" may not be the reason they're faster. As in actual automobile racing, what's good for one may be bad for another.

One of the more widely-circulated theories is that the lighter the finished slot-racer, the faster it is. As stated, the premise is not always true. It is true that the lighter your finished car is, the lower your power-to-weight ratio will be. The car therefore can potentially accelerate faster. The two emphasized words are important. Road tests on such cars as the Pontiac GTO show that by drop-

ping the rear end ratio from, say, 4:11 to 3:75 (or whatever the numbers might be), one can hustle the GTO through the quarter-mile quicker, and sometimes at a faster top speed. The low hp/wt ratio was not, by itself, the only factor responsible for the low E.T. Harnessing the power to the road was another factor that had to be dealt with. Witness the Cobra's development along just those lines — stronger universal-joints, better springs, hub carriers, and rear ends, and monstrous stock car racing drea. So, just following the "lighten 'er up" advice doesn't always help your car accelerate faster.

Assuming that you were able to figure out what other factors to deal with to help your particular car accelerate faster, and then were successful in dealing with them, you still might not be as quick around the track as your gifted buddy driving the pig. Acceleration is only one part of getting around the course. The car must still get around corners, and in quick style. Look how the Porsche 904's were able to clean the Ford GT's lap times at the time trials at LeMans. It sure wasn't because the Ford GT's couldn't accelerate. The nose was lifting at high speeds (among other things); something a slot racer can easily do, resulting in spotty juice and, sometimes deslotting on a straightaway.

What, therefore, are some of the many factors that must be dealt with when your car is lightened up by either using a light body or constructing a light space-frame? Check back issues of Model Car Science for some of the good technical articles on wheelbase, track, and center of gravity. These sophisticated principles play a great part in your car's handling. The lighter the car, the more infinitely precise these measurements and distributions must be. The easiest answer to these particular areas is "Experiment!" Try wider and then more narrow axles at the front, then at the rear, then together. Fiddle with the various combinations. You're bound to come close to what could mathematically be figured out by Ford's computer Rase and lower the pick-up heights. Try a swinging pick-up — I don't particularly like these for cornering solutions, but they're great for a car with so much hazzaz that the nose lifts on the straight. Experiment with different gear ratios — you'll generally have to gear higher (that is, shift from 3rd into 4th). Try different tires — widths, diameters, treads, and types of rubber. One of the most critical areas to be careful in when building a light car is the ability of the car to roll smooth and level. Any uneven tires — especially on the drive wheels — can bounce the car into a hopping, fish tailing mess to rival a stock Strombecker. The little test-beds, which consist of



rollers for the drive wheels to rest in while running the car, are perfect for this. Buy one, or better yet, build one. The one made by one of our club members has two sets of rollers—one low load (ball bearings) and one high load (oil-lite bearings)—to test under different conditions. The input may be adjusted via a rheostat to test at different RPM's. Amp meters reflect whether the car is drawing too much juice (which will cook controllers), this is usually caused by too much friction. The "output" meter tells how many RPM the motor is turning.

The whole point here is that tightening a car may bring up latent problems that weight has been hiding. Unless you can experiment with all of the above, go ahead and try a little weight in a few places. It generally can clear up evil handling vices or wheelspin that otherwise would plague you. The car *might* be a teeny bit slower on acceleration but if it's easier to drive, you'll get around the track quicker and stay in the slot longer.

Light weight plastic bodies (usually clear plastic) have another disadvantage. If you're involved in an accident, the body may "give" enough so that a critical part of your car could be damaged. So the body springs back to shape, but inside, a pick-up wire has been broken at the solder joint, or worse, the plastic pick-up breaks, etc. If the race happens to be important to you, I think you'd prefer to crack a stronger body, or maybe lose part of a fender, and still finish. Some reinforce these light bodies with epoxy screen or metal straps; but then they don't have the extra-light car they were originally seeking.

While the group I race with does try to build light, exotic cars, we have a Formula Libre class just to let off steam. Originally, this class was for fast cars regardless of class, but it has evolved to the point where we all build and run great hefty hulks and have a ball smacking one another all over left field. These cars, usually stockers, weigh from about 8 to 11 ounces, and are as strong as Grandad's old smoking jacket. They just plow right over any irregularity in the track's surface, and are generally ultra-easy to drive, unlike the ultra-light Revell GP's we used for a recent "pro-race". After exquisitely forming up a fine GP car, it does one good to just plaster up a Formula Libre car with decals and junk.

It has been advanced that 1/24th cars are too big and encourage the use of the large, extra-powerful motors. It is said these motors are not good for short courses. To add to the 1/24 vs. 1/32 considerations, it is my opinion that 1/24 is better precisely because the large, hairy motors can be used. By paying attention to all the factors mentioned earlier, enough of this horsepower can

be leashed to the track. I feel a good powerful car can beat a good weaker car around the track every time, everything else being equal. Admittedly it's getting the other things equal that's hard. Once set up though, a big Kemtron or 83-A, geared down to about 4 1/2 to 1, should leave the 70 in its tire dust. Besides that, it's fun to master the brute. The car, motor, track, power, and driver are all so relative however, that each must use what he can handle quickest.

At our last race meet, four or five 4-wheel drive 1/32's showed up to really shake up the rest of us. I drove all of them in practice, and there is no beating one that is properly set-up. These little cars all used long-shaft Mabuchi's with a contrate set-up at front and back. They are very sensitive to gear clearances and "lining up". If the system is a hair off somewhere, the resultant loss in friction spells doom for the underpowered high-revving creations. But when they're right — watch out!

In addition to our dynamometer, we now have our photo-electric lap counter working. The "counting" part of the system, with its large, numbered reels, were assembled and wired under the guidance of the recent article in Model Car & Track. However, an entirely different system of actuating these counters was employed. Instead of a mechanical trip wire or a "hot" strip interrupting the slot car's power strip, we used a photo-electric system.

The heart of this system is the photo-cell, which is arranged above the lane to receive a beam of light from a light source located underneath a hole in the slot. When the beam is interrupted by a car, it causes a difference in the electric "potential" of the cell. The minute change is then sufficiently amplified by a carefully balanced transistorized amplifier so that a sensitive relay (similar to a set of "points" in a real car's ignition system) may be actuated. It is this final signal originating from the relay that completes the circuit in the counter, instead of having the slot car's motor complete the circuit. The "balance" of the system is

very critical the necessary sensitivity to whatever light source one is using must be adjusted (at the transistorized relay). It can be adjusted to respond only to a slight interruption (a shadow) or a more major one. Once adjusted to a specific light source, the system will not vary in its characteristics.

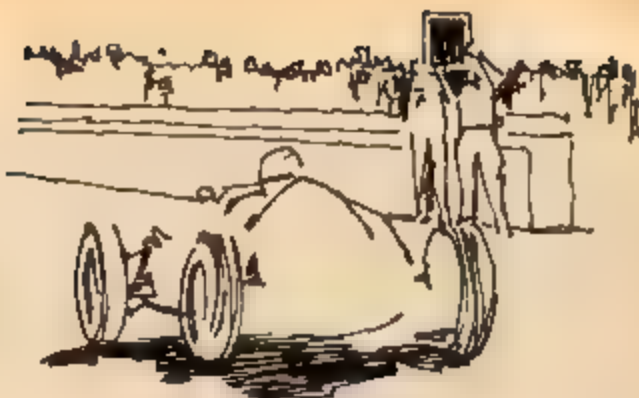
A small 12 volt lantern battery is used to power this independent circuit of the cell and its relay. Because of its transistorized system, it was discovered, through current and voltage readings while the mechanism was in operation, that this battery would wear out of old age before it would be depleted. While more complex than the "hot strip" method, the photo-cell system would at least be economical to maintain.

Other distinct advantages are its absolute independence from the slot racing. With the "hot" strip, the cars either speed up or slow down, depending on the power used if the pickup bounces or lifts while going over the strip, the lap won't register. The photo cell system is impossible to fault. We tried whipping a screwdriver back and forth as fast as we could, and the thing clicked true everytime. The speed of responsiveness is also adjustable; since we have ours set up very fast, our cars must not have a hole in the body or it will register twice. This is simple to check and prevent — a little tape. Ours is set to be a portable system — there are permanent light sources at each track. We are fixing up a little pedestrians' bridge about 5 inches high, this will encompass the tiny cells and relays (the bridge will be about 2 square inches thick). The counters are also in a portable case which we hang on the wall or from the ceiling in front of the drivers. Though ours is in operation, it is a little scuffy in appearance, we are still making more pleasant-appearing cases.

The "genius-next-door" who helped conceive the thing says he'll send a schematic in return for a \$2.00 money order. For more details, write Harold Hurst Electronics, 3241 South Elm, Denver, Colorado.



# SLOT RACING Track Directory



## Alabama

G.B.A. Club, Rt. 1 Box 168, Grand Bay  
Oriea Raceway, Box 244, Leachapaha  
Monte Sano Road Racing Club, 2904 Thompson Circle,  
Huntsville.

## Arizona

Warwick Club, 6760 Nelson Dr., Tucson  
Centennial City Model Road Racing Club, 915 Mid-  
dlerbrook Rd., Prescott  
Phoenix Miniature Auto Racing Assoc., Phoenix

## California

I/O Junction Hobby Shop, Diamond Raceway, 8018  
Woodmen St., Van Nuys  
Tandem Hobby Shop, 13852 1/2 Chase St., Panorama  
City  
Bob's Hobbies-Crafts, 2226 E. 4th St., Long Beach  
Babcock R & D, 836 S. La Brea, Inglewood  
Rustic Oak Slot Racing, Hwy 9, Fallbrook  
Diamond Raceway, 8015 Woodmen Ave., Van Nuys  
South Bay Raceways, 1213 Hermosa Ave., Hermosa  
Beach, Phone 367-2811  
International Hobbies, 1809 Lincoln Blvd., Venice  
International Hobbies, 2302 1/2 Armitia Blvd., Redondo  
Beach

La Mesa Hobbies, 1908 Sepulveda Blvd., Century City  
Venture Hobbies, 11746 Ventura Blvd., Studio City  
Alamo Raceway, 5 Market Plaza, Alamo  
"The Sleepers," Rt. 4, Box 403, Lodi

5th Ave. Hobby Shop, 2506 W. Manchester, (ingewood)  
N. E. Dunes, 666 North Tustin, Orange  
Pico Drag Center, 9316 Whittier Blvd., Pico Rivera  
Scenic Concepts Model Car Racing Club, 4522 Market  
Way, San Jose

Pioneer Raceway, 13331 Telegraph Rd., Whittier  
Hobby Shop, 145 S. Pacific Coast Hwy., Redondo  
Beach

Howard's, 1624 Contra Costa Blvd., Pleasant Hill  
Hobby Rama, 826 E. 3rd St., Santa Ana  
Don Thompson's, 9630 Los Turcos, Tempe City  
Golden Gate Model Road Racing Club, 326 Virginia  
Ave., San Francisco

Antelope Valley Hobby Center, 45013 N. Yucca Ave.,  
Lancaster

So. San Joaquin Slot Racing Ass'n., 4022 University  
Ave., Bakersfield

Anaheim Miniature Auto Racing Ass'n., 1168 N.  
Catalpa, Anaheim

Western Model Raceways, 13204 S. Western Ave.,  
Gardena

Talca, Inc., 4716 E. Home Ave., Fresno  
Fresno Hobby, 3933 Tulare St., Fresno

Spring Miniature Auto Racing, 8504 Garden Grove  
Bld., Garden Grove

Miniature Racing Center, 1525 Del Monte Blvd.,  
San Jose

D & S Hobby, 184 San Antonio Rd., Mt. View

K P Hobby Shop, 7716 Beverly Blvd., Los Angeles  
International Raceway, 1545 Locust St., Walnut Creek

Marina Raceway, 12901 Venice Blvd., Venice  
7th Street Speedway Hobbyshop, 3430 E. 7th St.,  
Long Beach 4, Phone 433-9323

S.C.C.A. Bill Meyer, 6849 Fishburn Avenue, Bell  
Riverview Hobby, 215 Roberts Lane, Bakersfield

Reginald Denny's Hobby Shop, 1501 N. Western Ave.,  
Hollywood 27

Doug's, 11187 Long Beach Blvd., Lynwood  
T & P Raceway, 805 Kasey, Modesto

University Raceway, 213 Big Springs Rd., Riverside  
Ron's Hobbies, 131 Los Angeles Avenue, Simi

Competition Team, 1323 Pajaredo Ave., Santa Monica  
R & L Hobby, 2363 E. Washington Blvd., Pasadena

Davis Speedway, 4926 Paramount Blvd., Lakewood  
Bob N-Ang Hobby & Pot Shop, 7300 Excalibur Ave.,  
Bell Gardens

Louis Mosconi, 1222 W. Magnolia, Burbank  
Hobbyville, 656 Arrow Highway, Pomona

Dean's Hobbyland, 23754 W. Lyons Ave., Newhall  
Houston's Hobby Shop, 335 So. 1st St., San Jose

House of Hobbies, 1829 Badillo West Corra,  
Ministore Grand Prix of Orange, 3702 East Chapman,  
Orange

Miniature Grand Prix of Van Nuys, 13360 Sherman  
Way, Van Nuys

"Scaleways," 1760 South 7th Street, San Jose  
"Whittier Raceways," 1521 West Whittier Blvd., La  
Habra

Smitty's Hobby Shop, 14548 E. 14th., San Leandro  
D & J Hobby Shop, 699 N. 13th Street, San Jose

International Roadracing Hobbies, 20831 D. Rompage Blvd.,  
Canoga Park

Modelcraft, 1150-52 Canon & Orange, Long Beach  
Ontario Hobby Center, 109 E. B St., Ontario

Unique Modelcraft, 10029 San Pablo, El Cerrito  
The Pit Stop, 14414 Ventura Blvd., Sherman Oaks

## Indiana

Glendale Hobby, 8191 N. Keystone, Indianapolis  
Broad Ripple Toy & Hobby, 6220 Carrollton Avenue,  
Indianapolis

Bob's Hobby Shop, 713 N. Main St., Miskawaka  
Hobby Lobby, 1631 E. Main St., Plainfield

Krall's Hobby Shop, 414 E. Washington, Ft. Wayne  
Lafayette Model Speedway, 3419 Golden Gate Way,  
Lafayette

**Detroit Model Raceway.** 11333 Van Dyke, Detroit  
**Al's Hobby,** 13650 Fort St., Southgate.  
**Wayne Hobby,** 34816 Michigan Avenue, Wayne.  
**J. J. Hobby,** 14741 Harper, Detroit.  
**Hy's Toy & Hobby,** 5 Mile at Coonridge, Oak Park.  
**Tracy's Speedway,** 4319 Milan SW, Wyoming 9.  
**Top Track,** 6371 Middlebelt, Garden City.  
**Jack's Model Shop,** 3302 Fenton Rd. Flint.  
**S-G Model Race Club,** 20490 Hanna, Detroit.  
**Dick's Hobby Shop,** 317 Broadway, Lynn.

## Minnesota

**The Duke of Oil,** 1009 W. 13th St., Wilmer.

## Missouri

**Excels Liberty Club,** 906 West Hiway 10, Liberty.  
**Dunn's Den,** 7114 Prospect, Kansas City.  
**Kennecraft Hobby Center,** 5300 E. 24th St., Kansas City.

## Montana

**Magic City Model Racing Assoc.,** 132 Santa Fe Dr. Billings.

## Nebraska

**Traction Masters,** 5513 Woodworth Ave., Omaha.  
**Hobby Center** 6111 Military Ave., Omaha.

## New Hampshire

**Model Road Racing Club,** Box 296, Charleston.  
**New England Hobby & Sports Center,** 94 W. Pearl St. Nashua.

## Nevada

**"Horseman Sidewinders,"** 18 Water St. Henderson.

## New Jersey

**Richard Erickson,** 517 80th St., North Bergen.  
**Tetown Hobby Shop,** 388 Union Avenue, Paterson 2.  
**Instant Speedway,** 649 Laurel Ave., Hazlet.  
**Colonia Speedway,** 70 Berkeley, Colonia.  
**Tim Toys, Inc.,** 236 W. Front St., Plainfield.  
**Richard N. Hughes,** 45 Hemlock Road, Short Hills.  
**Tom Ferguson,** 22 Hollis Dr. Mo-Ho-Kus.  
**Alan Douglas,** 180 Lincoln.  
**Tri-O-Rama, U.S. Route 46** Parsippany.  
**Yonkers Hobby House,** 555 Lexington Ave. Clifton.  
**Speed Lanes** Beachwood.  
**Nassau Hobby,** 142 Nassau St. Princeton.  
**Slot Rodders,** 170 Naltrona Ave. Trenton.  
**Tim Toys, Inc.,** 236 W. Front St., Plainfield.  
**Hi Way Hobby House, U.S. 17,** Ramsey.  
**Rich's Hobbytown, Inc., U.S. Route 46,** Parsippany.

## New Mexico

**Red Fish Raceways,** 1704 Central Ave., S. E., Albuquerque.

## New York

**Hobby Haven,** 688 Rinton Rd., B. Rochester 9.  
**Frank's Speedway,** 4263 Cameron Dr., Williamsburgh 2.  
**The Scavengers,** 549 Morris St., Albany 3.  
**Newark Slot Racing Club,** 124 Rome Dr., Newark.  
**Robert Harpethman,** 90 McLean Ave. Yonkers.  
**Matthew Porzick,** 26 Purden Rd. Glen Cove.  
**Gill Meditz — 55-49 60th Pl.** Ridgewood.  
**Rochester Raceways,** 823 Portland Ave. Rochester 9.  
**Model Builders of America,** 432 E. 149 St., Bronx.  
**Mountsinners, Box 354,** Woodstock.  
**Westchester Miniature Auto Racing Society,** East Ny-monda — 104 Highland Ave., Yonkers.  
**Folk's Hobby Department Store,** 314 Fifth Ave. New York City.  
**A & I Hobby House,** 18 Auburn Ave., Union Slot Racing Club, 33 Tait Ave. Latham.  
**"The Scavengers,"** 230 Whitehall Road, Albany.  
**East Schenck TT Racers,** East Schenck, New York 12063.  
**Race-A-Rama,** 3329 Bailey Ave. Buffalo.

## North Carolina

**Tommy Poe,** 4801 Harwick Rd. Charlotte.  
**Catamba Auto Modeler's Slot Division** 316 Belmont Rd. Belmont.  
**Bill Scott,** 5301 Randolph Road, Charlotte.  
**Quater Haines,** 976 Wallington Rd., Winston-Salem.  
**Diwirth Motor Speedway,** 1621 Lyndhurst Ave., Charlotte.

## Ohio

**Jerry Osborn,** 6127 Hemlock Ave., Cincinnati.  
**Lakewood Scale Model Raceway,** 17114 Detroit Ave.  
**Carroll Coors,** 2725 Cypress Way, Cincinnati.

**Forest City 1/25thurs, c/o Ron Smith,** 3344 Linden Rd. Rocky River 18.  
**Lusk Hobby Shop,** 812 Bennett St., Marion.  
**Slot Racing Center,** 3154-56 Madison Rd., Cincinnati.  
**Race-O-Rama,** 15711 Madison, Lakewood 7.  
**The Toledo Groove,** 1084 Lakay Rd., Toledo.  
**Richard Grossman,** 2910 Washington Blvd. Cleveland Heights 18.  
**Mark Stewart,** 1078 Stewart St., Newark.  
**Slot Racing Ass'n,** 523 South St. S.E. Warren.  
**Slotters, Inc.,** 1141 N. Memorial Dr., Lancaster.  
**Phil Stop of Toledo,** 820 Starr Ave., Toledo.  
**Race-O-Rama, Inc.,** 15711 Madison Ave., Lakewood.  
**Atlantic Speedway, Rt. 2, Box 174,** Ironton.  
**MacDonald Enterprises,** 6815 Snow Rd., Cleveland.

## Oklahoma

**Speedcraft Hobby Center,** 790 N. Main St. Owasso.  
**Oklahoma City Slot Racing Ass'n.,** Ennaka Enterprises, Inc., 2732 N.W. 10th St., Oklahoma City.  
**Big Top Hobbies,** Milham 2106 S.W. 59, Oklahoma City.

## Oregon

**Northwest Scale Racing Association,** 1726 N.E. 40th St., Portland.  
**Western Scale Speedway Ass'n.,** 480 Minnesota St. Lebanon.  
**Miracle Mile,** Highway 101, Box 643, Yaff.  
**Pacific Northwest Miniature Racing Ass'n.,** 426 State St. Salem.

## Pennsylvania

**Cornichards Slot Car Racing Ass'n.,** 212 Pine St. Germantown.  
**Baby Town Toys,** Germantown Pike & 202, Norristown Sq., Norristown.  
**Jay McCoy,** 272 Broughton Lane, Villanova.  
**John A. Sacco, Jr.,** 30 Ingram Ave., Pittsburgh 5.  
**Allied Hobbies,** 21 So. 16th St., Phila.  
**Omig City Street Rd., & Eastlinton Pike,** Feasterville.  
**Telegorams, Inc.,** 3401 Saw Mill Blvd., Dresherwood Park 27.  
**Northwest Slot Racing Ass'n.,** 703 Crescent Ave. Allentown.

## Texas

**Ohmes Raceway,** 837 W. Davis, Dallas.  
**C. K. Beck Co.,** 1420 N. McCullough Ave., San Antonio.  
**S & L Raceway,** c/o James Smith, 717 So. 11th, Temple.  
**Austin Scale Road Racing Ass'n.** 1702 Red River St. Austin.

**Hobby Town,** 5224 Cedar St., Houston.  
**Race City Rodders,** 3700 Main Pl., Tyler.  
**Action Speedway,** 837 W. Davis St., Dallas.  
**Ace Hobbies** 5409 Northing, Houston.

## Utah

**Jah Modeler Speedways — Douglas Models,** 122 E. 2nd South, Salt Lake City.  
**Kath's,** 170 East 8th So., Salt Lake City.

## Virginia

**National Capital Model Raceway,** 1125 W. King St. Alexandria.

## Washington

**Parkers,** Marion Hobby Center, 619 S.W. 152nd, Seattle.  
**Empire Hobbies & Crafts,** 6740 Empire Way South, Seattle.  
**Fit Stop Speedway,** 12706 Reel On Ave., So. Seattle.  
**Chrysalis Hobbies,** 435 Capital Way, Olympia.

## Wisconsin

**Setra,** 2024 N. 48th St. Milwaukee.  
**Read Angel Auto Club,** 1056 Elmore St., Green Bay.  
**Oklahoma Hobby Shop,** 1183 W. Oklahoma Blvd., Milwaukee.  
**Tri-City Dragway,** c/o Dennis Schmidt, Box 216, Stratford.  
**Midwest Scaletric Associations,** 1474 So. 5 Place, Milwaukee.  
**Racing Association,** 1337 So. 86 St., West Allis.  
**Friesz Hobby Studio,** 47 N. Main St., Fond du Lac.

## Canada

**Marport Slot Car Racing Club,** 5 Selmer Road, Weston, Ontario.  
**High's Variety Shop,** 3847 Bloor St., West, Lillingdon, Ontario.  
**Tom Carter** 53 Columbia St., W. Waterloo, Ontario.  
**Etobicoke Model Racing Car Club,** High's Variety Hobby, 3847 Bloor St. W. Toronto.  
**Rusport Racing Club,** 5 Selmer Ave., Toronto.  
**Klein's Hobby & Sporting Goods,** 3187 Bathurst St., Toronto.  
**Joe's,** 1516 Gerrard St. E., Toronto.  
**Hamilton & District Model Car Racing Club,** 39 Russell St. Hamilton, Ontario.  
**Kan Hopkins Cycle & Sports,** 2610 Yonge St., Toronto 2, Ontario.  
**Sore Charnell,** 8604 137th St., Edmonton, Alberta.  
**Model Racing Club,** 2760 Alma Rd., Vancouver, B.C.



"Hurry up, Pete — tonight we're running on twenty thousand volts!"



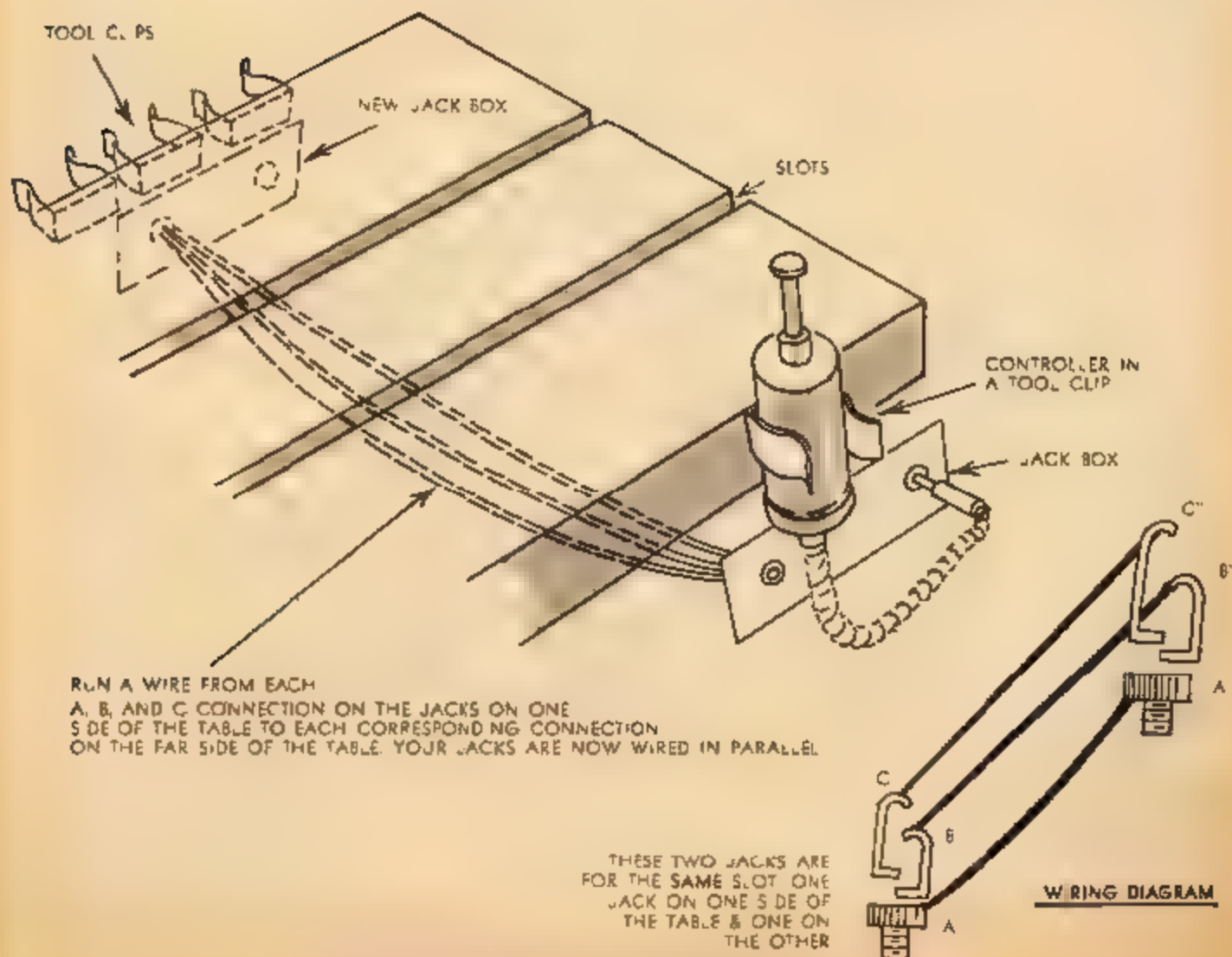
# SLOT RACER'S

## NEW IDEAS IN RACING MODIFICATIONS

By Raymond E. Hay

### ADDING ADDITIONAL JACKS FOR THE SAME SLOT

Huge slot racing layouts sometimes present a problem. A competitor often feels he would have an advantage if he were on the other side of the table where he could see a difficult corner better. By adding another jack board on the opposite side of the table, and running wires in parallel from the "A," "B," and "C" connections from track number 2, for instance, under the table to it's opposite (Sister) jack, you would be able to pull your phone plug on THIS side of the table and walk to the opposite side of the table and plug in and race. Wire the other jacks the same.



We all know how to wire an old type M.R.R.C. controller for brakes by this time, but this controller will work much better with a shorter stroke. Try it and you will agree. Just follow the simple instructions.

**Step 1.** Take the controller apart. It is assumed you have already wired it for dynamic braking. Wrap a piece of  $\frac{1}{2}$ " wide scotch tape around the top half of the windings. Remove the end of the winding at the bottom of the barrel and unwind up to the bottom of the scotch tape. Wrap this end around a sheet metal screw, insert the screw into the barrel and finish off with a drop of epoxy glue. Remove the scotch tape.

**Step 2.** Determine where the wiper is located, and over this spot drill a fairly large hole ( $\frac{1}{4}$ " or larger) in the outer plastic case, so you can see through the case and observe the wiper in action. This is necessary so you can adjust the plunger downward until the bottom-most part of the windings is just above the wiper. (When the controller is in the "OFF" position, with the plunger all the way up, the wiper should not quite touch the windings.)

**Step 3.**

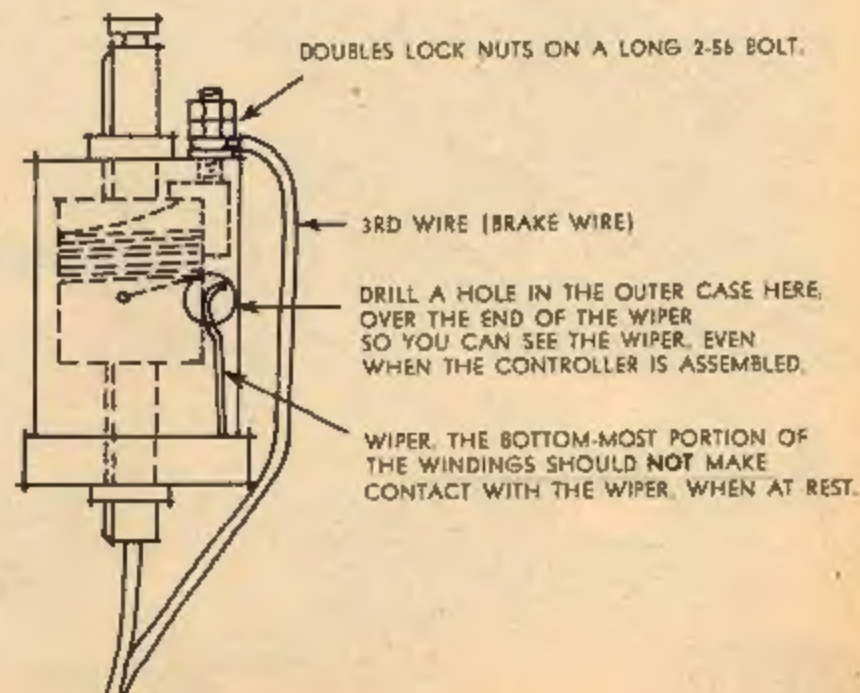
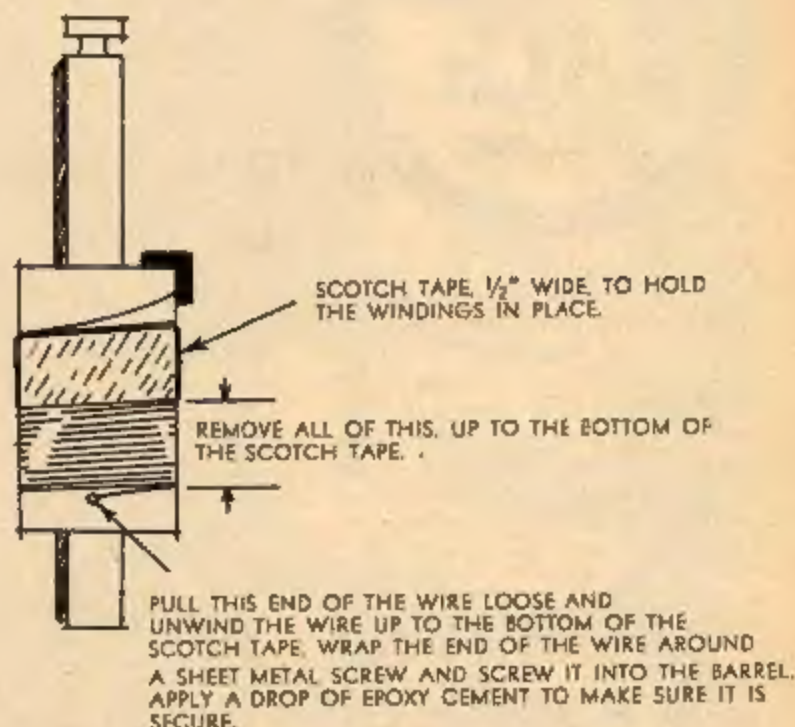
Insert a long 2-56 bolt with a double locking nut on top, down through the cap of the controller. This nut-bolt combination will replace the short one that used to make contact with the brass "L" shaped piece that is soldered to the top winding on the barrel. The bolt will now serve two purposes. It will make contact with the "L" brass strip, thereby shorting out the circuit when the plunger is all the way up, and it will also locate the barrel at the right distance and position inside the outer plastic case of the controller.

The wiper **MUST NOT** make contact with the bottom winding on the barrel. That is why we drilled the hole in the outer plastic case, so we could see into the interior of the controller, and adjust the plunger downward, using the 2-56 bolt, until the bottom of the windings is just slightly above the wiper. This is a matter of trial and error, and the controller will have to be taken apart several times and the double nuts loosened and the bolt threaded further into the controller, pushing against the top of the "L" brass strip to cause the barrel to compress the coil spring below it, thereby positioning the barrel deeper in the interior of the controller.

What you have done then, is to reduce the throw of the plunger by about half. We took nearly half the windings off the barrel, and then lowered the barrel by pushing it down on the coil spring, with the long bolt from the top of the cap.

Try the controller now. You will be amazed at the extra control.

## SHORTENING THE STROKE ON AN M.R.R.C. CONTROLLER FOR FASTER RESPONSE







WHEN A PERSON is close to a sport he sometimes forgets to look back when trying to solve current problems. One of these areas is the loose use of the word scale. I think by looking back I have learned a few answers for the present commercial centers and their problems with new customers. In the early days there were no commercial tracks and slot racing was strictly a club activity. You could visit a club, see a

complete set of rules and talk to those racing. You could see a variety of cars and learn how to scale and build. Today, a beginner goes to the commercial track and there is no full set of rules, only a few basic requirements posted on the wall. There are many cars to look at, but rarely one in scale. Why? Well, I feel it is caused by confusion.

The average shop posts these rules:

1. Axles cannot stick out beyond wheels.
2. Weights must be securely fastened, clay not permitted.
3. Maximum width outside to outside tires: 3" for 1/24th, 2-1/2" for 1/32nd scale.

The number 3 rule is the real kicker. In neither case can you associate these measurements with the scale. Scale is scale and there is no other way!

I would like to suggest this possible solution: Not everyone cares to race scale, in fact many people do not care to race at all. They have just as much fun running alone or with friends regardless of the car's type or shape. I feel the posted rules should read: Maximum width, outside to outside of the tires, 3". Sounds the same, but there is no reference to associate it with scale building. Scale building and racing needs more rules than the posted house rules and should not be included in them. With rules posted that do not refer to scale, you do not confuse the beginner.

Too many problems have been created with this current way of posting rules. A person just starting can run this very wide track and feel he has a car that is still legally scale. If a person understands scale he knows better of course, but there are many young boys that honestly do not.

On the subject of scale, while the system mentioned above is in effect, the manufacturer is going to take advantage of it. He knows the bigger car has the advantage. Now as long as parts are advertised as scale and accepted as scale, when they aren't, this situation will continue to exist. Items will remain oversize and advertising will remain SCALE for the sale!

One of the things that makes that little difference between just an ordinary car and a fine car is line and decal trim. In the case of line detail, fine line painting of these areas really pick the body up and give it life. A good way to start is by doing a junk body you have lying around. Paint in the hood and door lines, etc. Flat, non-gloss colors are best here and black of course goes with anything, and adds realism. Practice on a junk body makes perfect. You will soon find this extra effort will place your cars among the ones that stand out from all the others. In the case of decals, pick the ones that fit your car and are realistic for the size.

## A REAL SAND BLASTER!

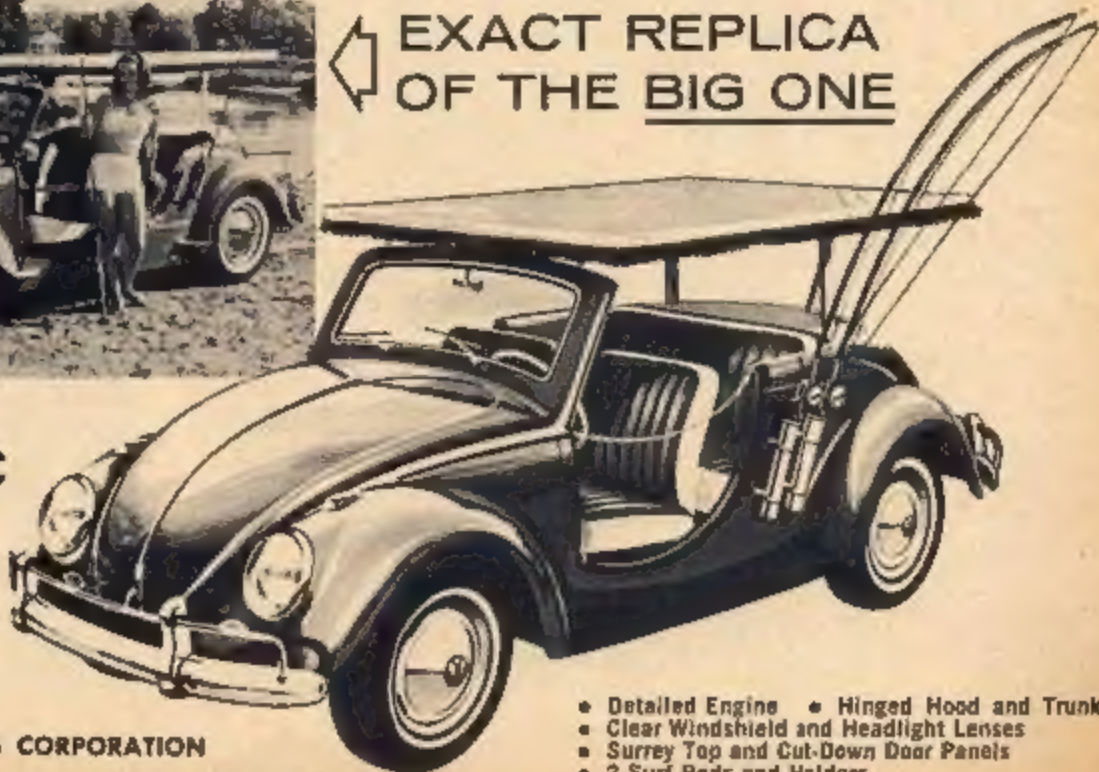
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# ***Dynamic News***

THE "WORD" FROM DYNAMIC MODELS

Vol. 1, No. 1

Van Nuys, California

September 1964

## **DYNAMIC MODELS' MODEL RACE CAR ACCESSORIES LEAD THE FIELD IN FEATURES, VALUE AND VERSATILITY**

The following features explain why Dynamic Models' growing line of "modeler tested" slot car accessories are growing to be the most popular in the field today:

### **Lightweight CHASSIS**



DynaMite Chassis are the only chassis on the market made of high-grade cast aluminum. Cast aluminum is used because of its low density and therefore, light weight. However, lead weights are provided if needed for your racing.

### **Strength**

DynaMite Chassis frames are as rugged as you can find...and the strength is where it counts. Bearings will not twist out of alignment; motors will not twist under load; gears will maintain their set position.

### **Ease of Assembly or Adjustment**

No need to solder. One or two screws control assembly and length adjustment. Extra tapped holes provided to assemble body mounting bars, etc. However, a brass tongue is now provided for the modeler who desires to solder mounts or other accessories.



### **Versatile**

The growing line of DynaMite Chassis allow for easy mounting of all popular motors — Mabuchi, Pittman, Revell, Tradeship and Tyco. More mounts are coming for other motors that will be completely interchangeable with any DynaMite components you now have.

Experiment with interchangeable front ends, including rigid 1/8" axle (Plain or with roller bearings); 1/16" wire front axle and independent 1/8" axles.

A drop flag is now also available for use on any DynaMite Chassis. Try this for improved performance.

### **Economy**

DynaMite Chassis are the best value on the market today. Also, if you want to change motors you don't need to buy a complete chassis — just buy the motor mount you need and use with your present accessories.

### **NEW SLICK TIRES NOW ON MARKET**



Due to the tremendous variation in track configuration, surface, angle of track banks, car weights and many other factors, we have found a need for various formulas of sponge rubber in our slick tires.

Therefore, you can now buy Dynamic Models 1/32 and 1/24 scale slicks in either soft sponge, medium sponge or firm sponge. Experiment with your cars and track to find the one best for you. (They're low priced too!)

### **REVERSE RIM CUSTOM WHEELS LOWEST PRICED AND BEST ON THE MARKET**



Like all Dynamic Models products, we guarantee these low priced 1/32 and 1/24 scale wheels (priced \$49 a pair) to run as true as any on the market.

We will replace any Dynamic Model product found defective. Just return to factory for exchange.

### **DYNAMIC ACCESSORIES MOST POPULAR IN FIELD**



Body mounts provide an easy method for fastening your body to your D. M. or other chassis.

Have you tried a Dynamic guide flag? Only \$.39 each with either a 1/8" or 3/16" post, braid, screws and retainer. Ready to win.



Knock-off nuts (2 or 3 prong) are only \$.59 for a set of four. (Repeat — 4, not 2) and a wrench is available for tightening both 2 and 3 prong nuts.

Wide range of popular hardware items now available from Dynamic Models.

Ask your nearest hobby dealer to show you the spacers, collars, axle retainers, extra guide flag braid (tinned and punched) and many other items now available at low, low prices.



### **New chrome plated Mag Wheels from Dynamic!**

Dynamic's popular aluminum mags are now available with chrome plate that really sparkles, and these wheels are light!

If you don't yet feel the need for Dynamic Models' precision ground axles, we also make low cost axles in all popular lengths.

For a real value in car accessories, see Dynamic's Rolling Frames at your hobby dealer. Save more than \$1.00 over buying these components as separate items.



Dynamic's DynaMite Test Block has proven to be of tremendous value to the car builder who wants to check out his car under close observation before running on a track. Also very useful for breaking in your race car!

SEND 10c FOR COMPLETE CATALOG OF ALL DYNAMIC MODELS QUALITY RACING ACCESSORIES

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